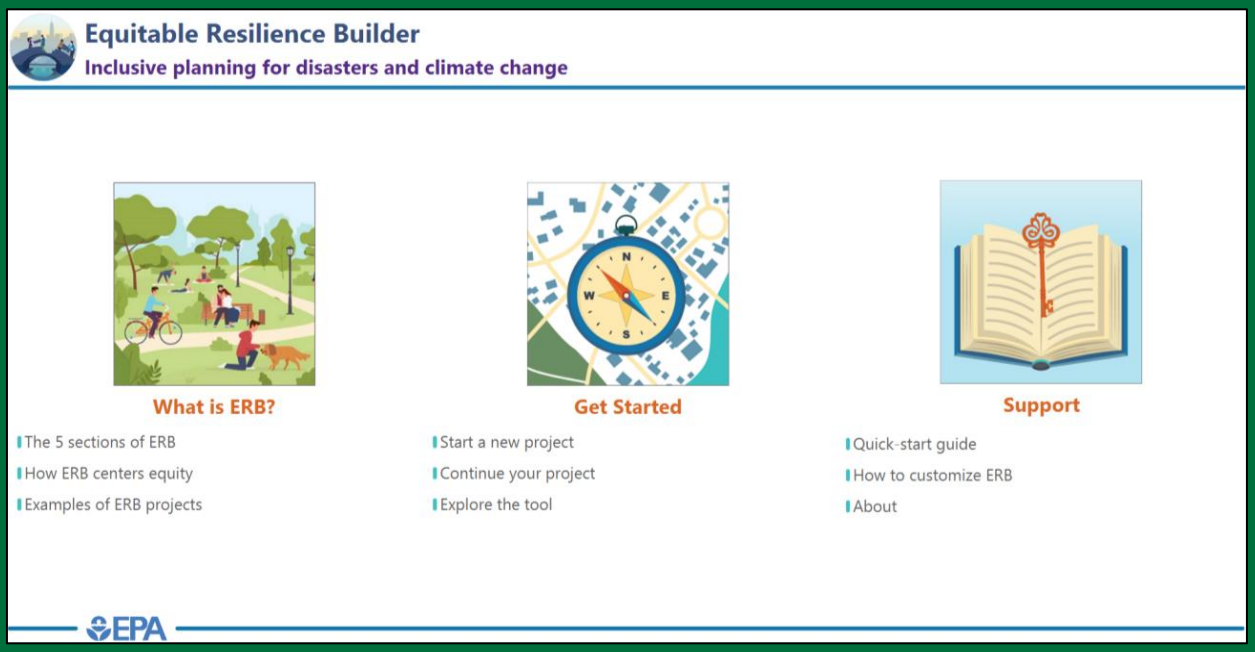
EPA 600/R-23/355 I November 2023 I www.epa.gov/research

United States Environmental Protection Agency

Equitable Resilience Builder (ERB 1.0) User Guide



Office of Research and Development

Center For Environmental Solutions and Emergency Response

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Equitable Resilience Builder (ERB 1.0) User Guide

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For questions about the tool and how to use it, contact: CESER@epa.gov

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Acknowledgments

The development of the ERB tool is the result of the support of numerous individuals whose contribution is briefly described and acknowledged below. The role of contractors did not include establishing Agency policy.

- Appointments to the Internship/ Research Participation Program at the EPA's Office of Research and Development, administered by the Oak Ridge Institute for Science and Education (ORISE) through Interagency Agreement (IA # DW08992524701) between EPA and the Department of Energy's Oak Ridge Associated Universities
- Case studies, indicators, and training materials prepared by Climate Resilience Consulting, including Adaptation International, and Kim Lundgren Associates, under Contract 68HERH21A0012, Task Order 68HERH22F0112 and Task Order 68HERH23F0001
- Tool design and usability testing carried out in collaboration with The Design Lab at the Office of Personnel Management (OPM) via Interagency Agreement 92567601-1
- Indicator and social vulnerability research with RTI under Contract 68HERH20F0422
- Software development through EPA High End Scientific Computing Support Services, Task Orders GSQ0017AJ-0019 and 47QFCA22F0020
- Project management under Contract 68HERH20D0003 with Oak Ridge Associated Universities

This research was funded through ORD's Homeland Security Research Program and Sustainable and Healthy Communities Research Program, with additional financial support from:

- A Regional Sustainability and Environmental Sciences Research Program (RESES) 2021 award from the Sustainable and Healthy Communities Research Program for "Supporting Equitable Resilience Planning through Active and Inclusive Community Engagement"
- Environmental Modelling and Visualization Lab Awards for FY22 and FY23

Technical and scientific clearance was carried out by Terra Haxton, Sang Don Lee, Sanjay Seth, Ramona Sherman, Jordan West, José Zambrana, Joshua Behr, Brittany Brand, and Robert Soden. Former ORISE participants Kelli Roemer and Paige Varner contributed to earlier versions of this guide.

Abbreviations and Acronyms

CBRN	chemical, biological, radiological, or nuclear
CESER	Center for Environmental Solutions and Emergency Response
CPHEA	Center for Public Health and Environmental Assessment
EMVL	Environmental Modeling and Visualization Laboratory
EPA	U.S. Environmental Protection Agency
ERB	Equitable Resilience Builder
FAQ	frequently asked questions
FEMA	Federal Emergency Management Agency
HCD	human-centered design
IA	interagency agreement
NGO	non-governmental organization
OPM	Office of Personnel Management
ORD	Office of Research and Development
ORISE	Oak Ridge Institute for Science and Education
RESES	Regional Sustainability and Environmental Sciences Research Program
SHC	Sustainable and Healthy Communities (Research Program)

1 Introduction to the Equitable Resilience Builder

This User Guide covers the Equitable Resilience Builder (ERB) tool, version 1.0, developed by the U.S. Environmental Protection Agency (EPA) in 2023.

1.1 What is the Equitable Resilience Builder?

The ERB tool is a downloadable software that supports communities' efforts to build equitable resilience in anticipation of future disasters and in response to climate change. It engages users in a guided process to inclusively assess local hazards, equity, and the resilience of built, natural, and social environment systems; then uses the results to collaboratively prioritize actions to build community resilience in an equitable way.

The ERB tool contains activities organized into five sections: “Plan Your Project;” “Engage Your Community;” “Assess Hazards, Equity, and Resilience;” “Strategize Actions;” and “Move Forward.” Each section contains activity options from which users can choose.

Figure 1-1 The five sections of the ERB tool

1.1.1 Intended User Audience

The ERB tool is designed for municipal, county, and tribal government personnel who work as resilience planners, sustainability officers, emergency managers, public works, heat officers, and other positions responsible for making and implementing a resilience or hazard mitigation plan (Box 1). It can also be used by non-governmental organizations (NGOs) and community-based organizations that work on topics such as environmental and social justice or disaster preparedness and recovery.

Box 1: User Scenario

You are an emergency planner in a small rural town in North Carolina. Last summer, your community suffered unprecedented, catastrophic flooding from a tropical storm. Homes, businesses, and livestock farms were destroyed. Now, there is a call from the county to revamp its hazard mitigation plan with local input. Your job is to lead the update. ERB can help!

1.1.2 Applications

The tool is intended to assist communities with different types of resilience planning (e.g., climate adaptation, hazard mitigation, emergency preparedness). Multiple potential applications

of the ERB tool are possible in different community settings and planning contexts (see Table 1-1). The ERB tool provides support for all-hazards planning, including acute disasters such as heat waves, hurricanes, wildfires, and tornadoes; inadvertent, secondary, or intentional chemical, biological, radiological, or nuclear (CBRN) releases; and long-term challenges of climate change such as sea level rise or changing temperature and precipitation regimes.

Table 1-1 How Communities Could Apply the ERB Tool

Example	Description
Community Example 1	An EPA Regional staff member and a community organizer for environmental justice are working together to convene and activate an emergency preparedness group with community members in a rural county that contains two Superfund sites.
Community Example 2	A local environmental education and advocacy organization is leading a coalition to develop a watershed resilience plan and wants to incorporate equity into the plan.
Community Example 3	A team from public health, emergency management, and urban development agencies is tasked with planning a city's recovery from the COVID-19 pandemic, with a focus on historically underserved neighborhoods.

1.1.3 Outputs and Outcomes

The ERB tool promotes equitable resilience planning through *relationships*, *recognition*, *information*, and *action*. Using the ERB tool leads to both *resilience planning outputs* and *community building outcomes*. Both are important to initiate, build, monitor, and grow through time to accomplish local resilience and equity goals. A selection of ERB tool activities and products are listed below as examples.

Table 1-2 Examples of Outputs and Outcomes from Using the ERB Tool

ERB Activity	Outputs for Resilience Planning	Community Building Around Resilience
Gather data on hazards, equity, and resilience	Baseline information from online datasets, recent planning documents	Learn about systems; share experiences
Storytelling on hazards and assets	Integrate local knowledge and other data	Build empathy and trust, strengthen connections
Futures scenario	Focused discussion on future risks people might not have thought about	Integrate risk and equity assessments into planning
Participatory mapping	Spatial awareness of hazards and impacts, integrate local knowledge and other data	Identify priorities for action
Indicator card sorting	Participatory assessment of built, natural, and social environmental systems	Empower residents, identify priorities for action
Equity discussion	Understand who experiences hazards differently, how, and why; considerations in resilience actions	Build trust, strengthen connections

1.2 About the ERB Tool: Technical Requirements

ERB 1.0 was developed in 2023. It is a downloadable tool that runs in Windows 10+ using the Java Runtime Environment. All the components needed to run the tool are included in the download.

To view and edit the supplementary materials included in the ERB tool, Microsoft (MS) Word, MS Excel, and a PDF viewer are required. The ERB tool will automatically open supplementary material documents into the appropriate program and will save files within the tool.

The ERB tool can be downloaded from a landing page on the EPA's Emergency Response Research website https://www.epa.gov/emergency-response-research/equitable-resilience-builder. It is also available via the resilience section of the EPA's Global Change Explorer https://www.epa.gov/gcx. The tool was developed to be in line with Section 508 requirements. The code for the ERB tool can be found at GitHub: https://github.com/USEPA/metroceri_erb.git.

1.3 Development History

The theoretical grounding and preliminary work that underpin the ERB tool stem from research in EPA's Homeland Security (HSRP), Air Climate and Energy, and Sustainable and Healthy Communities (SHC) Research Programs. This research covered indicators of urban resilience to climate change and indicators of community resilience to homeland security incidents and other disasters (EPA 2017, Maxwell 2018). The principal investigators decided to combine forces into a single team. The ERB tool was developed by this interdisciplinary research team from the Center for Environmental Solutions and Emergency Response (CESER) and the Center for Public Health and Environmental Assessment (CPHEA) in the EPA's Office of Research and Development's (ORD). The team used human-centered design (HCD) methods in collaboration with The Design Lab at the Office of Personnel Management (OPM) (OPM 2018 a, b). Discovery and ideation workshops carried out with members of the intended user audience led to the creation of design principles for the tool and a paper prototype of the content of the tool (Fry et al. 2023).

The design principles of ERB are:

- Build relationships and trust within communities
- Recognize trauma
- Be accessible for under-resourced communities
- Use local data and knowledge
- Facilitate action
- Be flexible and adaptable for different users and planning contexts

The paper prototype was tested through three community case studies in partnership with EPA's Urban Waters Program and Regions 2 and 4 (see Table 1-3). ORD engaged the services of a consulting firm with extensive experience in community engagement and resilience planning to support the case study communities in planning their projects, customizing the ERB tool materials, and facilitating workshops with community members. ORD researchers participated in all planning meetings and workshops to observe the process and identify ways to improve the tool. Insights from the case studies led to revisions of ERB materials and activities and addition of new information and activities, as well as improved understanding of the variety of contexts in which the tool could be used.

Table 1-3 Community Case Studies

Location	Local Objectives	Activities
Grand Rapids, MI	Bring equity more centrally into watershed resilience plan	Full day workshops in 3 sub-watersheds
Barnwell, SC and Waynesboro, GA	Build community around emergency preparedness	2 half-day workshops in 2 communities
Buffalo, NY	Navigate recovery funding and identify under-resourced needs	Half-day training and full day workshop

Software development for the ERB tool was carried out in conjunction with the EPA's

1.4 Relation to Other Resilience Tools and Resources

Communities can use several other resilience tools and resources, including those developed by EPA, other federal agencies, professional associations, states, cities, non-profits, businesses, and universities. The ERB tool is intended to work in concert and complement these tools. For example, in its section on Assessment, it directs users to Federal Emergency Management Agency's (FEMA) National Risk Index for hazards data. Similarly, depending on the actions identified in the Strategize Action sections, users might find topically specific resources useful such as EPA's resources for disaster debris management.

The specific contributions that the ERB tool makes to the universe of resilience tools and resources are:

- Operationalization of strategies to center equity in resilience planning (see Box 2)
- Assessment measures grounded in social-environmental systems
- Analysis of deeply rooted forces shape social vulnerability to different types of hazards
- Linking assessment to action
- Attention to emotions, trauma, and other barriers to participation

Box 2. What does it mean to center equity in resilience planning?

It entails strengthening the capacity for communities to withstand, respond, adapt, and transform in the face of climate change and disasters in ways that are:

- Culturally appropriate
- Participatory and inclusive
- Responsive to how historic, social, and environmental factors create unequal social vulnerabilities to hazards for different populations and social groups
- Attentive to the distribution of the benefits and burdens of resilience interventions

2 Access the ERB Tool

The landing page for the ERB can be found on the EPA's emergency response research website at https://www.epa.gov/emergency-response-research/equitable-resilience-builder.

2.1 What to Expect

The ERB tool is compatible with desktops or laptops Windows 10+ operating systems (both desktop and laptop computers). The tool is not compatible with tablets or mobile devices.

Downloading and unzipping the tool creates a file structure on the user's laptop. All the user's work in the ERB tool will be saved in this file structure as part of a project. EPA cannot access these files or view any information you input into the tool.

2.2 Download Instructions

1. Click on the "Download ERB button" from the landing page to initiate a download of a file titled "ERB_V1.0.zip."
2. Download the zip file to your computer.
3. Unzip the zip file to a new folder in a location of your choosing. This might take a few minutes.
4. Open the new, unzipped folder. The default folder name will be ERB_V1.0.
5. In the ERB_V1.0 folder, you will see three sub-folders (app, lib, runtime) and two standalone items (erb.exe and erb.ico). Click on **erb.exe**.
6. It might take a few minutes to load. Once it loads, you should see the ERB landing page on your screen (see Section 3.1) and the ERB icon on your taskbar (see Figure 2-1).

Figure 2-1 ERB icon

2.3 Troubleshoot Downloading

If there is trouble downloading and installing the tool, try the following:

- Check for institutional firewalls
- Check to see if pop-ups are blocked
- Try a different browser
- Check security settings for downloading and opening tools
- Save the zip file to the C drive instead of a shared drive (e.g., OneDrive, Sharepoint)

- Look at the logs. Navigate to the folder containing the erb.exe file. Double click into the lib directory. From there, double click into ERB directory. Then double click into the Logs directory. There will be a .log file for each of the following levels:
    - Severe: Serious failure
    - Warning: May be an issue
    - Info: Informational messages
    - Fine: Tracing information for an error
    - Finer: Detailed tracing information for an error

3 Get Started with Using the ERB Tool

This section contains information about the ERB landing page, including the “Explore the tool” function, start or continue a project, and using and navigating the tool pages once a project is open.

3.1 ERB Landing Page and Projects

The ERB Landing Page is the first thing users will see when they open the ERB tool. Three columns of content can be explored from the landing page (Figure 3-1). The first column, “What is ERB,” contains three links to background information to read on the ERB process: “The 5 sections of ERB,” “How ERB centers equity,” and “Examples of ERB projects.”

The second column, “Get Started,” contains three links that allow users to “Start a new project,” “Continue an existing project,” or “Explore the tool.” A project is the workspace used to address a specific resilience planning task. It contains a series of activities with accompanying supporting materials (i.e., Word documents that contain instructions, Key Takeaways forms, Excel spreadsheet of indicators), and visualizations to use within the tool (i.e., Indicator Center).

The third column, “Support,” contains links that provide technical and supporting information: “Quick-start guide,” “How to customize ERB,” and “About.”

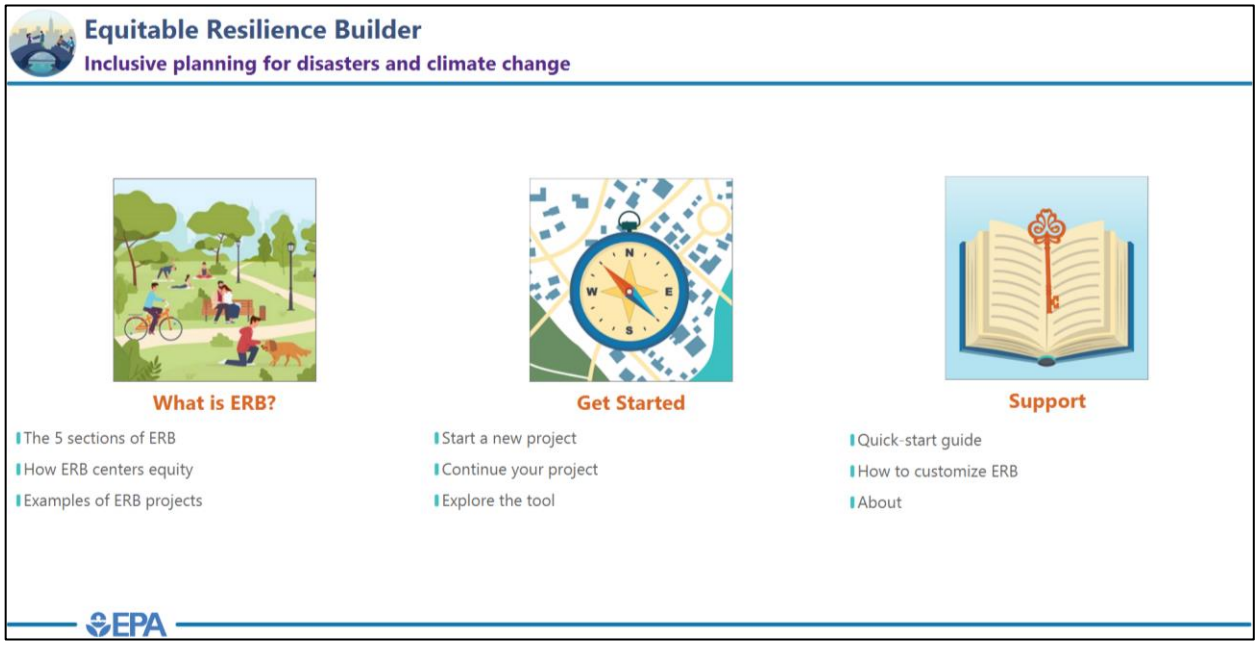

Figure 3-1 ERB landing page

3.1.1 Explore the Tool

If users want to check out the tool’s functionality is without creating a project, they use the “Explore the tool” function under the “Get Started” column. This allows users to preview tool pages, activities, and supporting materials. Users will know they are in Explore mode because pages will have a warning “Important: You are in Explore mode. To use the interactive activities or edit forms, create a project on the ERB home page” (Figure 3-2). While in Explore mode, changes to supporting materials documents cannot be saved and users will not be able to use the Indicator Center. To save changes to a worksheet or use the Indicator Center, users would need to start a new project.

To navigate back to the landing page from Explore mode, users should click the “ERB Home” button in the

top left corner (Figure 3-2).

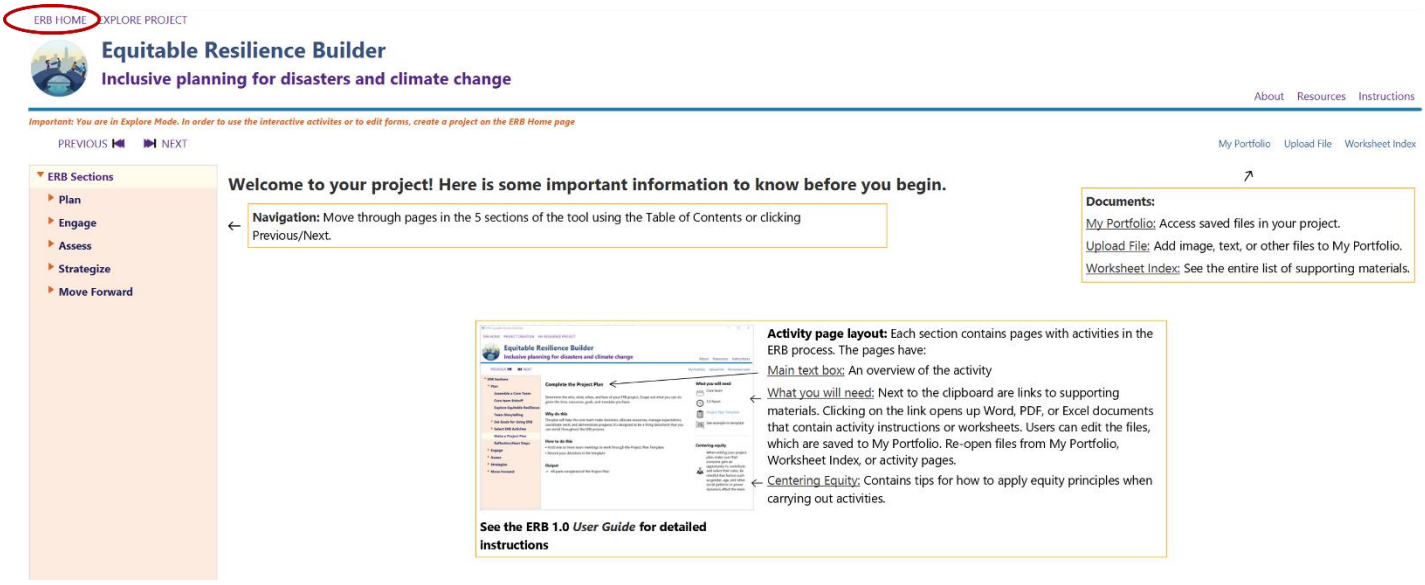

Figure 3-2 "Explore the tool" function with navigation back to ERB homepage circled

3.1.2 Start a Project

Users will generally want to create a new project for each unique application of ERB to resilience planning. Creating a project creates a workspace in the ERB tool where users can save changes to supporting materials within the ERB tool (e.g., facilitator's guide, Indicator Center). To begin working on a project, users should click on "Start a new project" under the "Get Started" column of the ERB landing page. On the next page, users have the opportunity to provide a project name and description of their choosing (Figure 3-3). Once a project name is entered into the name box, it cannot be changed. These items currently do not have a limitation to the character count. After entering in this information, users should click "Create" to start their project (Figure 3-3). A project can be closed and resumed later, even if users close the ERB tool. Once a project has been created, it cannot be deleted.

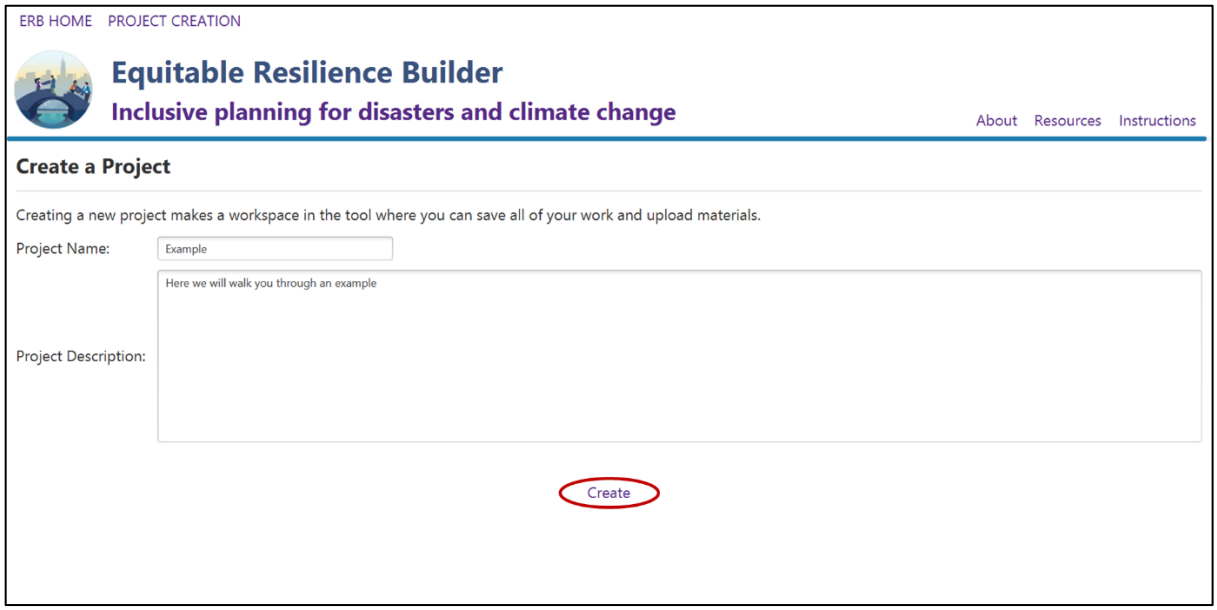

Figure 3-3 Create a new project page with the button to create a project circled

3.1.3 Continue a Project

To continue an existing project, users can click on “Continue your project” under the “Get Started” column of the landing page. A full list of previously created projects will be available to choose for continued editing (Figure 3-4). Users can single click on a project to read the description of that project and double click to open the project.

Users can navigate back to the landing page by clicking the “ERB Home” button in the top left corner, and back to the Project Selection page by selecting the “Project Selection” button in the top left corner.

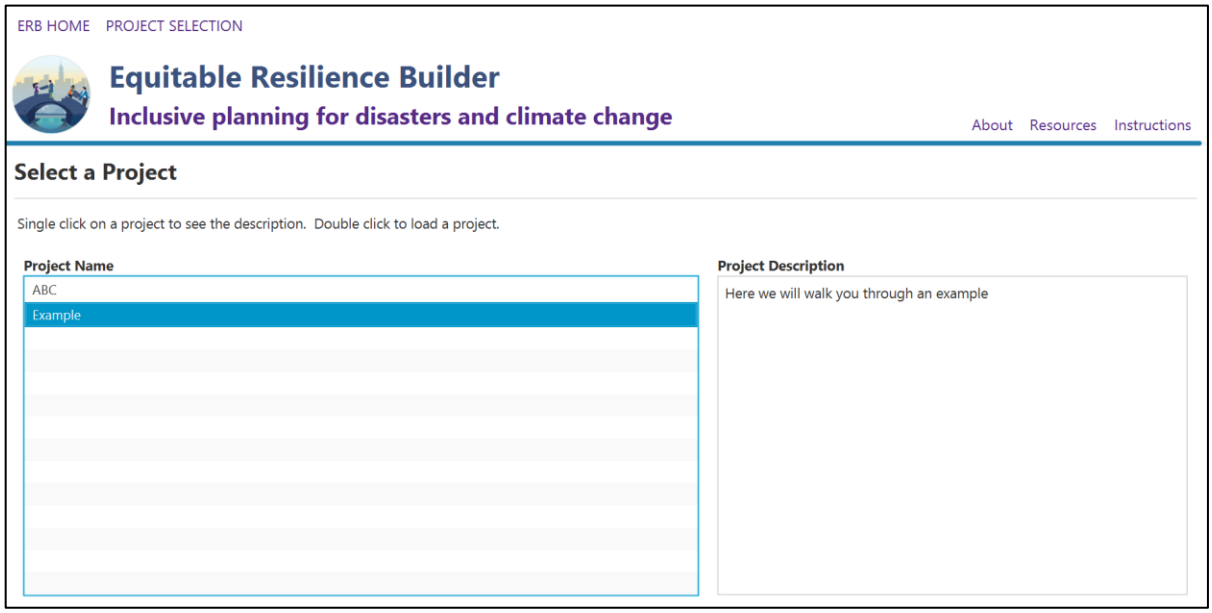

Figure 3-4 List of previously created projects to continue editing

3.2 ERB Project Page and Tool Navigation

The project page (Figure 3-5) is the first page a user sees when they start a new project. The name of the project appears in the top left corner button so that users can verify that they are in the correct project (Figure 3-5).

If users want to navigate back to the landing page, they can click one the button in the top left corner.

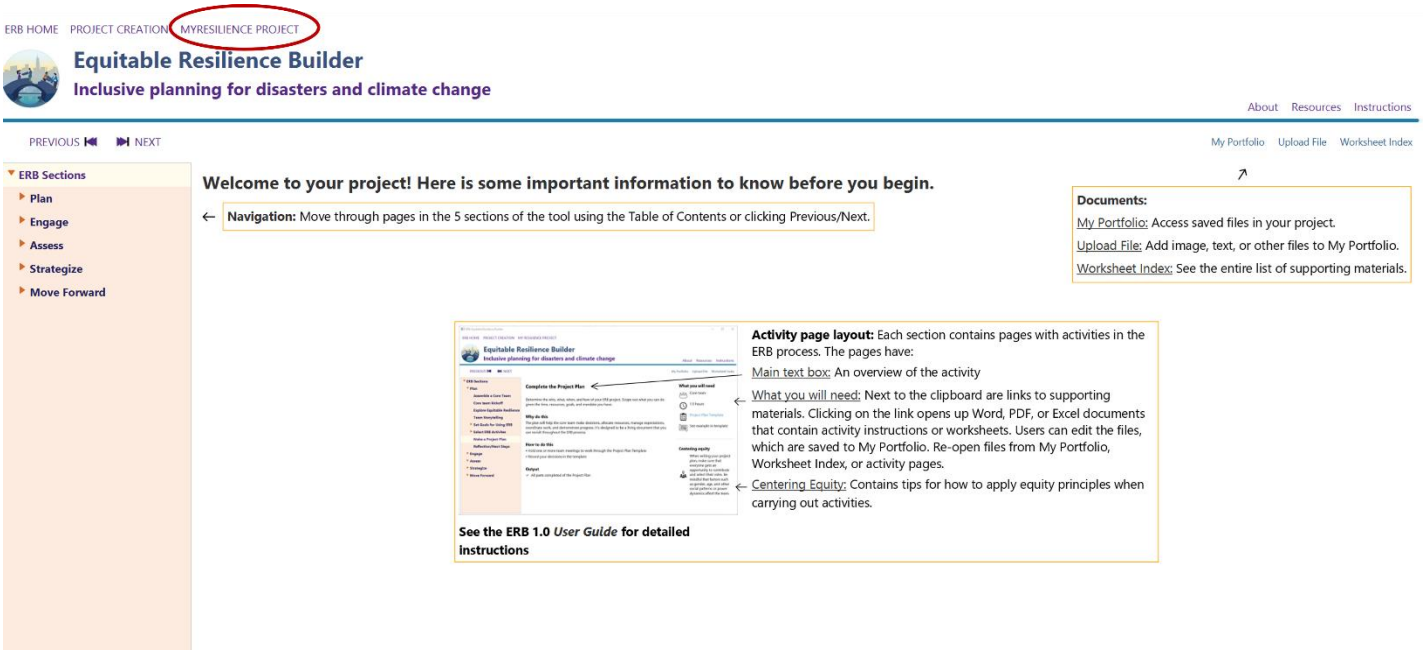

Figure 3-5 Project page in the ERB tool with the name of the project circled

The main content area of ERB pages is in the center of the page. The table of contents is on the left-hand side of the page. Figure 3-5 shows the names of the five main sections of ERB (Plan, Engage, Assess, Strategize, and Move Forward). Above this table of contents, “Previous” and “Next” buttons allow for navigation between adjacent pages.

Users can collapse and expand within the Table of Contents. Double clicking on one of section names in the Table of Contents opens a list of pages within that section. Triangles to the left of page names indicate whether there is additional content in a sub-page.

To access any of the supporting materials in the tool, users can click on the blue “Worksheet Index” button at any time. To access supporting materials that have been edited and saved within the tool, users can click on the blue “My Portfolio” button at any time. Files are sorted by the section in which they were created. To upload relevant files from their desktop or laptop to “My Portfolio,” users can select the blue “Upload File” button. For example, digital photograph images taken at an ERB workshop can be uploaded.

In the top right of the page are three purple buttons. Clicking on one of these buttons opens a drop-down menu that can help users with the ERB tool. The “About Us” button has information about the ERB tool. The “Resources” button has background information on key concepts (e.g., storytelling, indicators). The “Instructions” button has information and Frequently Asked Questions (FAQ) based on this user guide for how to navigate the tool and use its contents. After clicking on one of the drop-down options, a separate window with content will open. The pop-up window can be closed via clicking the “X” in the top right corner of the window. Users can also click on the images within the pop-up window to enlarge an image in a separate window, which can also be closed by clicking the “X” in the top right corner.

4 ERB Sections

The ERB tool has five sections focused on different aspects of the resilience planning process: “Plan,” “Engage,” “Assess,” “Strategize,” and “Move Forward.” Here, the components of each section are described, including the section home page, activity pages, features, and supporting materials. For more about the purpose of each ERB section, see Part 5 of the User Guide.

4.1 Components of ERB Sections

Each section begins with a section home page (4.1.1) and includes activity pages (4.1.2), icons (4.1.3), features (4.1.4), and supporting materials (4.1.5).

4.1.1 Section Home Page

The section home page provides an overview of the section, including a list of activities in the section and the outputs users can produce by the end of the section (Figure 4-1).

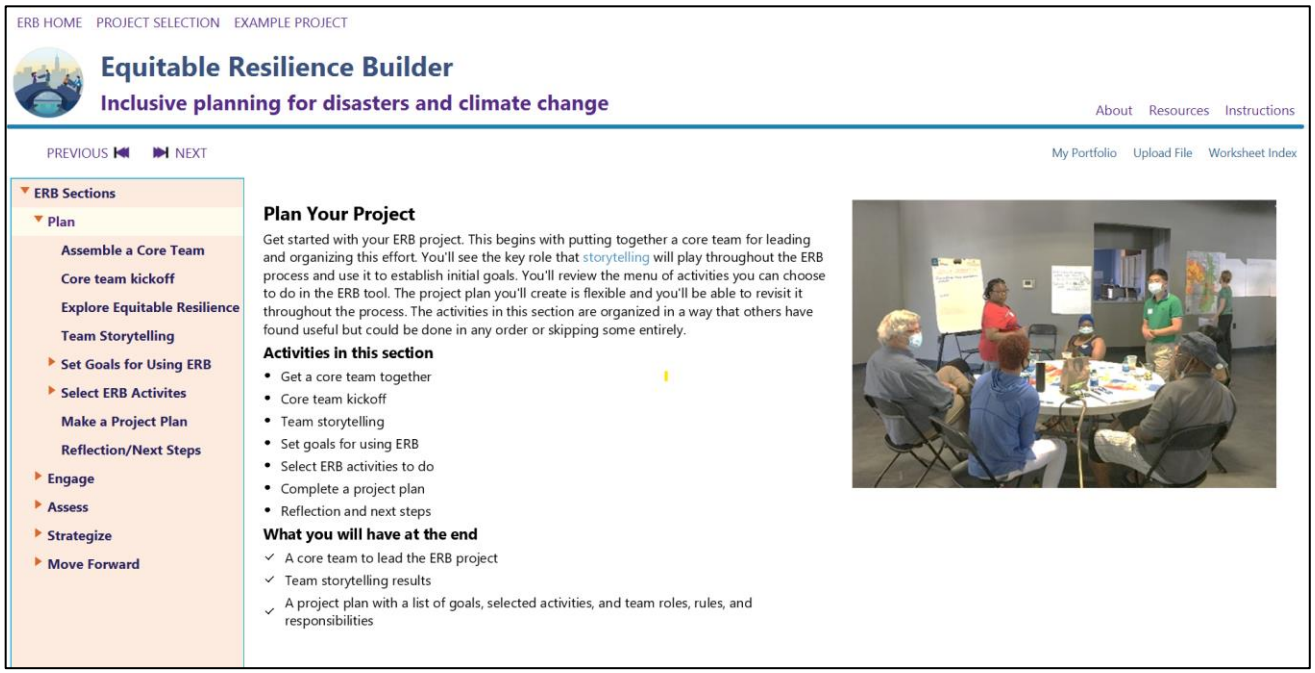

Figure 4-1 Example of a section home page

4.1.2 Activity Pages

Activity pages (Figure 4-2) provide directions and materials to carry out that step of the ERB process. The main content area is divided into three sections, shown here in rectangles: largest in center with activity overview, basic instructions, and potential outputs; top right with logistics needs; bottom right with considerations for entering equity. Activities primarily are conducted outside of the tool using Supporting Materials and Features. The information generated can be saved within the ERB tool (see 4.1.5). Each activity has a corresponding activity overview page that includes goals, purpose, and outputs of the activity as well as time and materials needed for planning and recommendations for centering equity. The times listed are estimated based on experience with these and similar activities, but could vary depending on team dynamics, number of workshop participants, cultural norms, experience, and other factors.

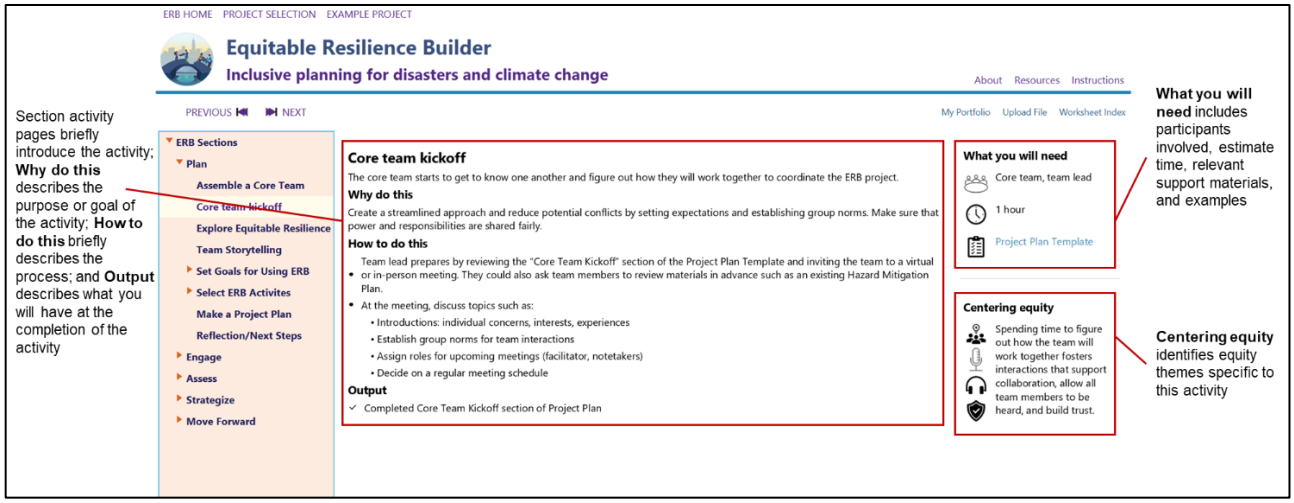

Figure 4-2 Example of an activity page

4.1.3 Icons

Activity pages contain two sets of icons. The first aids users in completing that specific activity (Table 4-1). The second set is relevant equity themes for that activity (Table 4-2).

Table 4-1 What You Will Need Icons

Icons	Meaning
	Who is involved
	How long will it take
	Supporting materials for this activity
	Example of the activity

Table 4-2 Centering Equity Icons

Icon	Theme	Icon	Theme	Icon	Theme
	Empathy		Trust		Adaptability
	Representation		Collaboration		Vulnerability
	Networking		Voice		
	Local Knowledge		Active Listening		

4.1.4 Features

The ERB tool includes several Features, that is, interactive elements of the ERB tool that are used within the tool to generate a visualization that can be saved or exported as part of “My Portfolio” (Table 4-3). Features

can be accessed via the table of contents on the left as the user moves through the tool, and in links in the "What you will need" part of activity pages.

Features are distinct from "Supporting Materials" in that they must be used within the tool, while "Supporting Materials" can be downloaded as Word or Excel documents or PDFs to use offline (4.1.5). Instructions for each feature are below.

Table 4-3 Features in ERB Sections

Section	Feature Name	Purpose
Assess	Indicator Center	Interactive indicator sorting and visualization
Assess, Strategize	Key Takeaways	Summarize and display information gathered from many different sources

4.1.4.1 Indicator Center

4The Indicators Activity can be accessed via the "Assess" section > "Sort Indicator Cards" > "Indicator Center" (Figure 4-3).

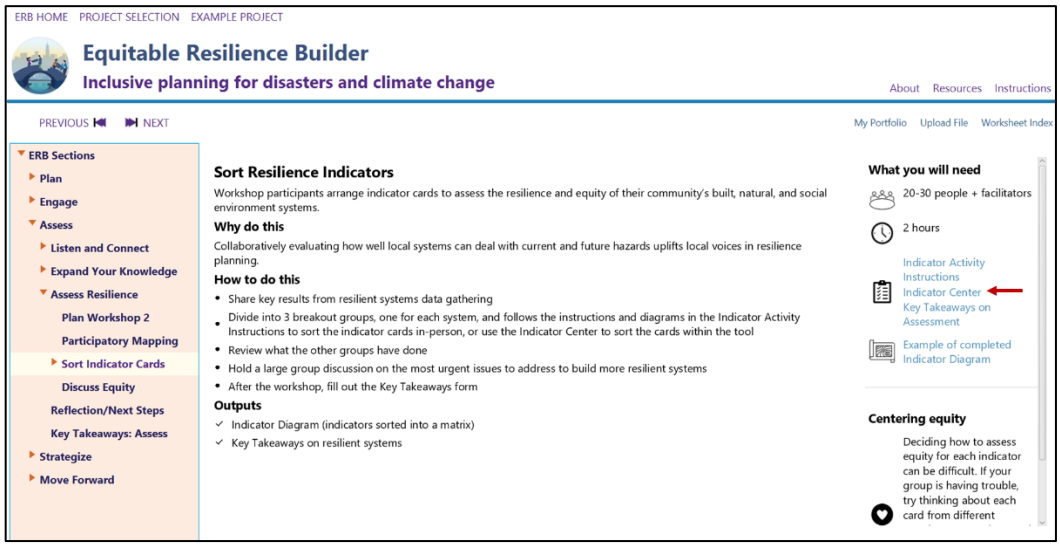

Figure 4-3 Indicator activity page with an arrow pointing to the Indicator Center link

Users should then scroll down and select "Option 2" (Figure 4-4) for the virtual indicator activity. An alternative is to use printable indicator cards.

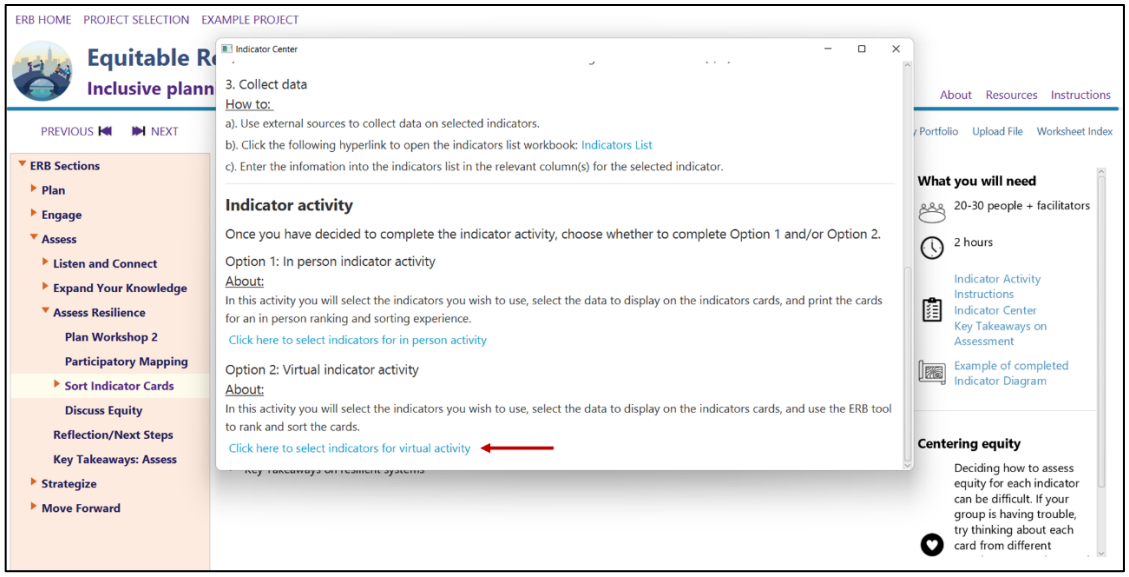

Figure 4-4 Indicator center with arrow pointing to the link to open the virtual indicator activity

A pop-up list will open up. If users have added indicators to the Indicators List spreadsheet, those will appear on the list as well. Users should select which indicator(s) they want to use from the list and click “Save and continue to ranking activity” (Figure 4-5).

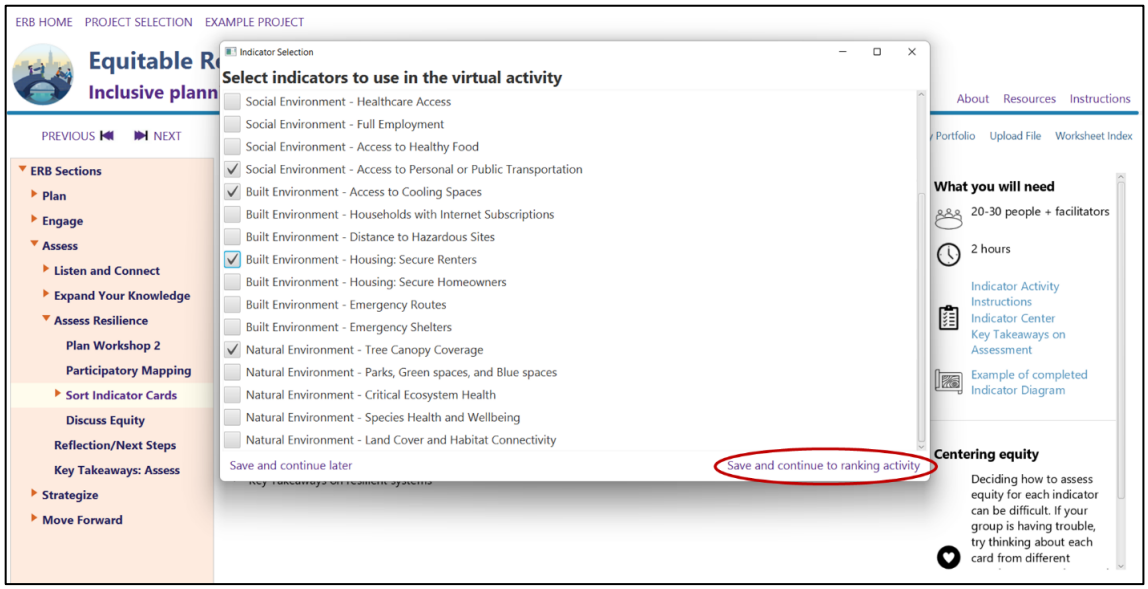

Figure 4-5 Select indicators with “Save and continue to ranking activity” circled

The green box is the first step to organizing the indicators from less resilient to more resilient (Figure 4-6). Users should click on an indicator card to open it up and see more information (Figure 4-6).

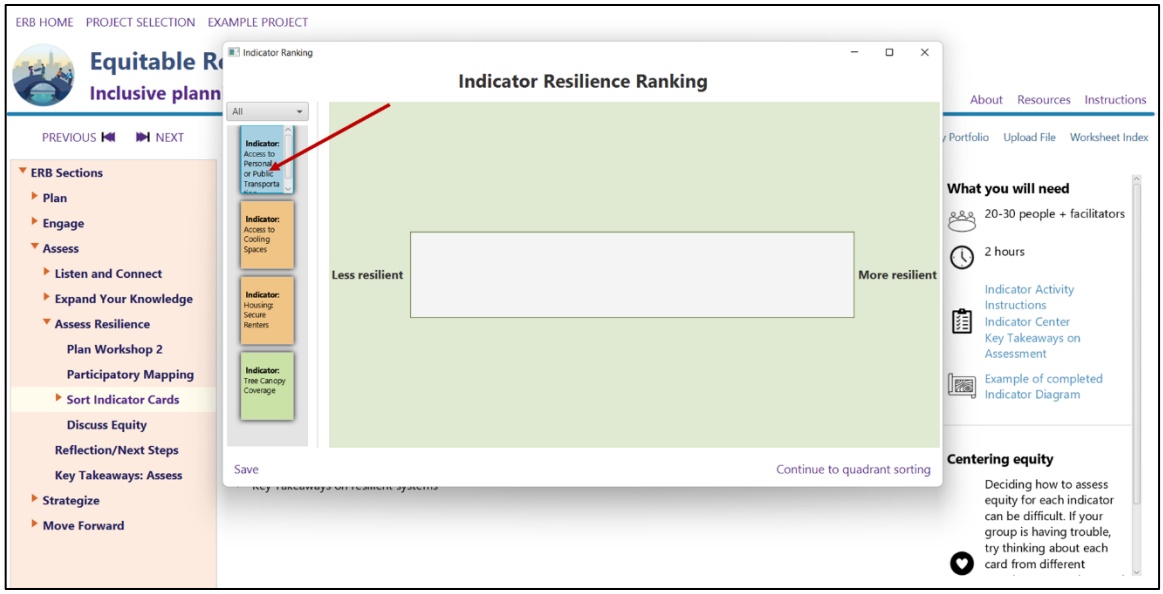

Figure 4-6 Indicator cards and resilience gradient with an arrow pointing to an indicator card that can be clicked on to open more information

Users should select and drag a card from the column on the left to organize on the resilience gradient (Figure 4-7). Users should click “Save” to save a screenshot of the gradient. Users should then click “Continue to quadrant sorting activity” to continue (Figure 4-7). Before continuing, there will be a warning to save a snapshot of the resilience ranking as this is not automatically stored.

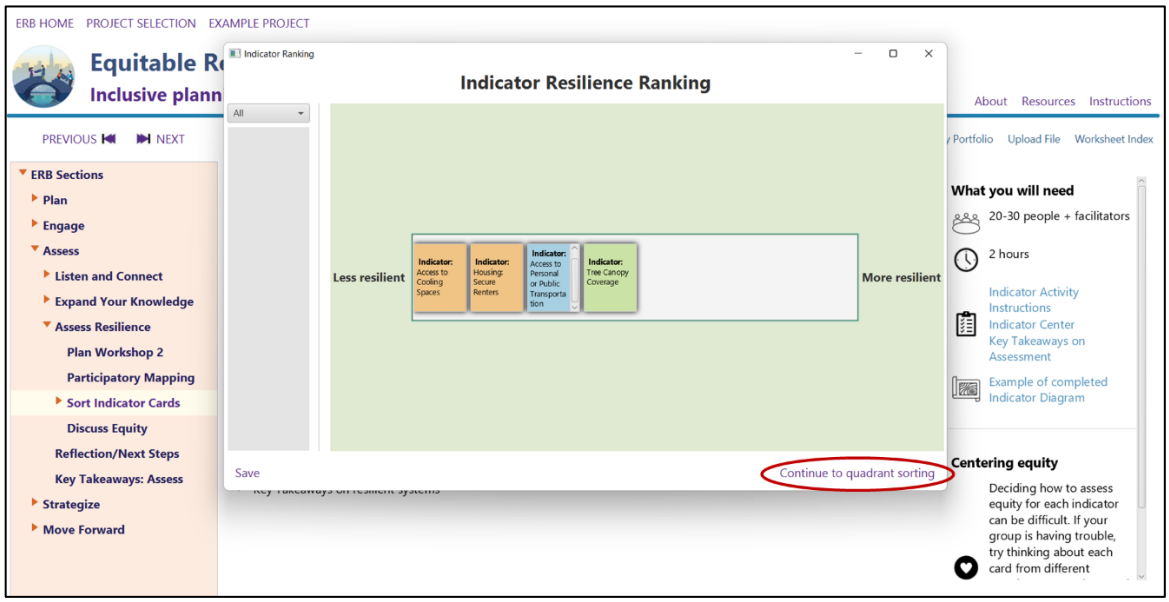

Figure 4-7 Indicator cards on the resilience gradient with “continue to quadrant sorting” circled

In the quadrant grid, the user can move cards from the resilience gradient to rows above and below on the equitable axis in the quadrant visualization (Figure 4-8). Users should select “Save” to save a screenshot of the quadrant to their “My Portfolio” (Figure 4-8).

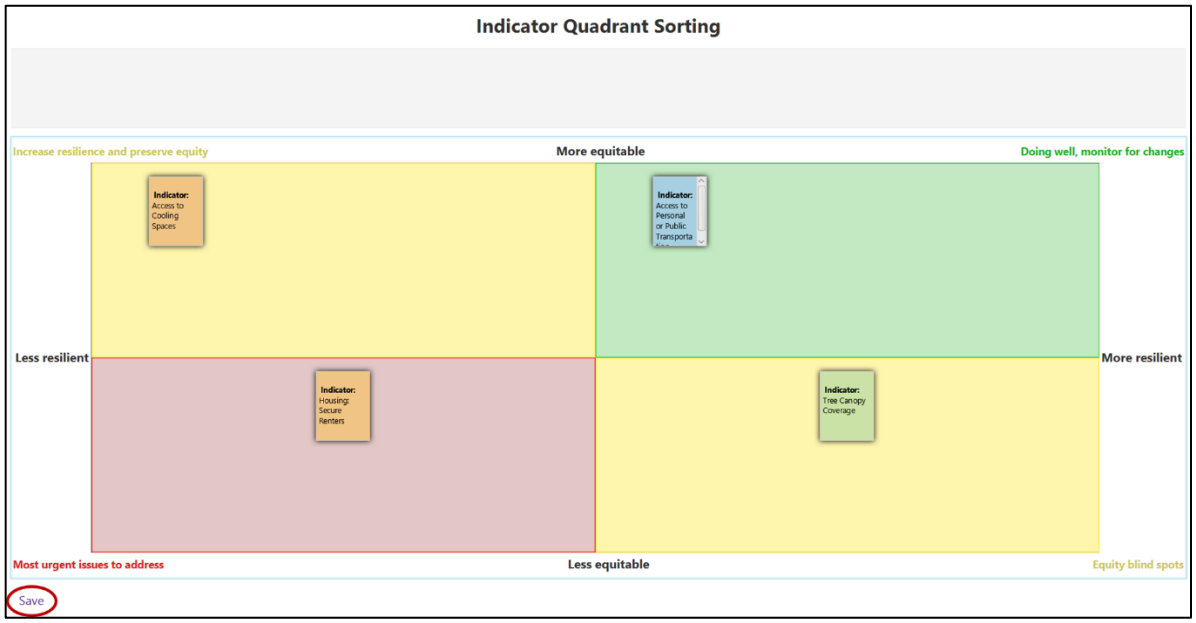

Figure 4-8 Indicators organized into a quadrant visualization with "Save" circled

4.1.4.2 Key Takeaways

The "Key Takeaways" feature (Figure 4-9) is accessed at the end of the "Assess" and "Strategize" sections. Users should type their responses in the white text box following each prompt. Users should select "Save Form" to save their work and move on to the next section. Users will be able to export their responses as part of "My Portfolio" (see 4.1.5.2).

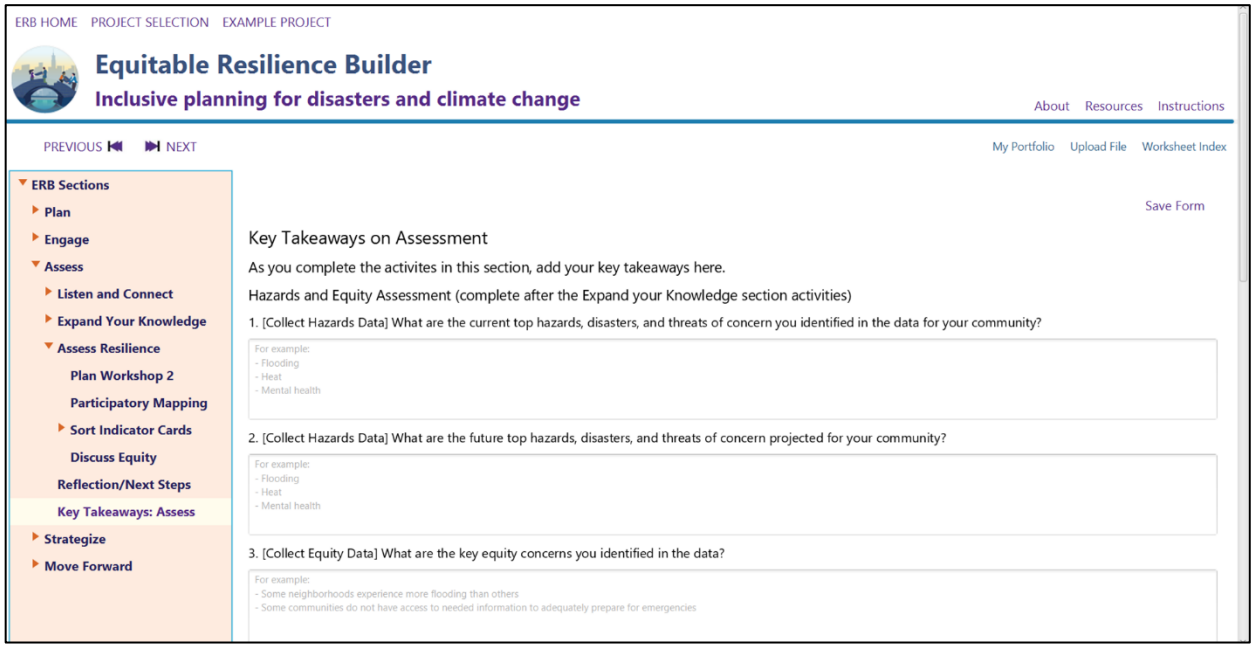

Figure 4-9 Key Takeaways feature in the Assess section

4.1.5 Supporting Materials

Various supporting materials can be found in each section, such as activity instructions, workshop facilitator guides, worksheets, and reflection diaries (Table 4-4). These resources provide instructions and fillable documents for conducting ERB activities. Supporting materials can be accessed by the hyperlinks in the "What you will need" part of the activity pages. When users click on each hyperlink, a document or Excel spreadsheet will open on their desktop. Supporting materials can be saved within the tool. To do so, users should turn on "auto save" or manually save using the "save" button within Word, Excel, or PDF viewer. Supporting materials can be downloaded and saved to a desktop or laptop using "My Portfolio" (see 4.1.5.1).

Table 4-4 Supporting Materials in Each Section

Section	Supporting Materials
Plan	Recruitment Guide
	Youth Engagement Guide
	Project Plan Template
	Exploring Equity Exercise
	Equitable Resilience Handout
	Team Storytelling Exercise
	How to Use Storytelling
	How Have Communities Used ERB
	Goal Setting Examples
	Activity Selection Examples
	Reflection Diary
Engage	Equity and Engagement Exercise
	Community Connections Table
	Diagram Community Connections
	Community Engagement Plan
	Reflection Diary
Assess	Key Takeaways on Assessment
	Facilitator's Guide for Workshops
	Community Engagement Plan
	Hazards Storytelling Exercise
	Urban Waters Story Map
	How to Use Storytelling
	Future Scenarios Instructions
	Scoping Information Gathering
	Hazards Data Sources
	Equity Data Sources
	Indicators List.xlsx*
	Project Plan Template
	Data Scoping Example
	Collect Equity Data
	Indicator Activity Instructions

	Collect Hazards Data
	Mapping Activity Preparation Guide
	Indicator Card Template,pptx
	Indicator Center
	Mapping Activity Instructions
	Example Map with Stickies
	Example of completed Indicator Diagram
	Equity Discussion Instructions
	Reflection Diary
Strategize	Implementation Storytelling Exercise
	How to Use Storytelling
	Key Takeaways on Strategizing Actions
	Project Plan Template
	Key Takeaways on Assessment
	Identify Action Areas
	Results to Action Workshop Agenda Builder
	Facilitator's Guide for Workshops
	Reflection Diary
	Results to Action Workshop Sample Agenda
	Urban Waters Story Map
	Disaster Scenario Exercise
	Equity Storytelling Exercise
	Vision Statement Discussion
	Actions Brainstorming Instructions
	Actions Brainstorming Example
	Evaluating Equitable Resilience Building Actions
	Strategy Chart
	Strategy Chart Example
Move Forward	My Portfolio
	Implementation Worksheet
	Adaptation Clearinghouse
	Funding and Finance Guide
	Community Engagement Plan
	Indicator List.xlsx*
	Monitoring Plan Worksheet
	Indicator Center
	City of Denver COVID Recovery Funding Dashboard
	Ripple Effects Mapping in Richland County, Montana
	Reflection Diary
	Final Report Template
*All support materials are in .docx format unless otherwise specified	

4.1.5.1 Uploading Content via My Portfolio

If uploading content such as photos of workshops, spreadsheets, or other files to ERB, the user can click “Upload File” in the top right of the screen. A box titled “Upload External File” will open and the user can click “Upload File,” and select a file from their computer that will be saved to “My Portfolio” (Figure 4-10).

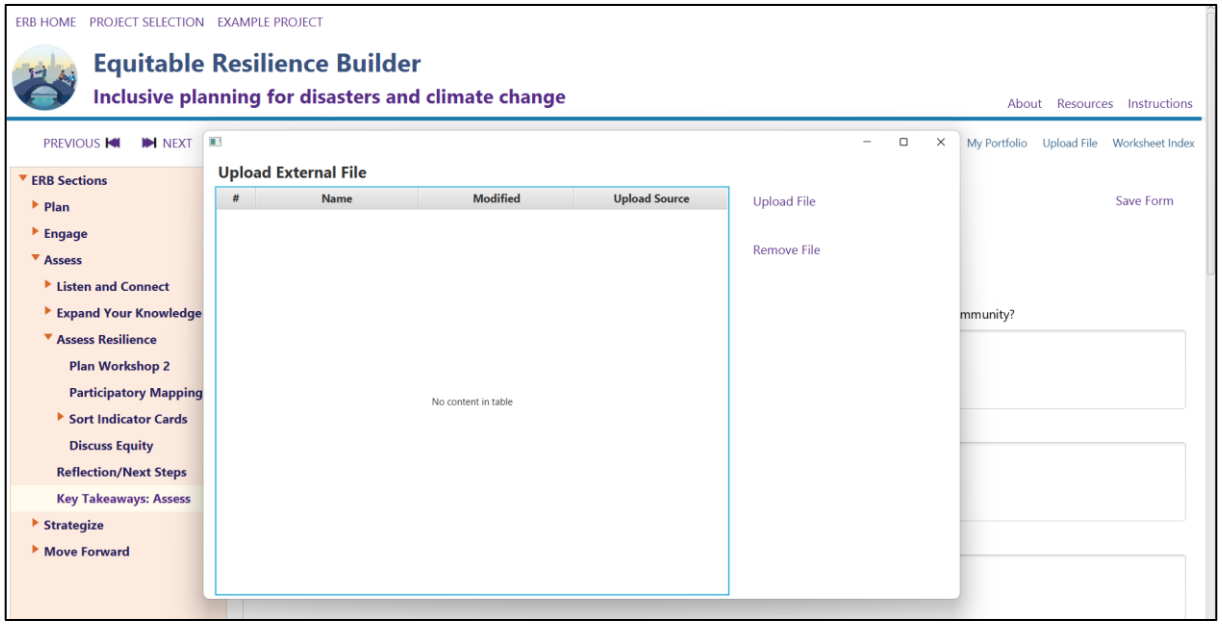

Figure 4-10 "Upload File" feature of "My Portfolio"

4.1.5.2 Downloading Content from My Portfolio

At any point, users can download and save the project-specific files they have worked on (e.g., facilitator guides, worksheets) from supporting materials or features to a location of their choosing on their computer. Users should click on the “My Portfolio” button. A box will open that lists files by section, with the date of last activity. The default date is the date of the initial ERB download. The “Completed Forms and Uploaded Files” box contains the Key Takeaways forms. Users should select the files they wish to download and click “Export” to save the batch of files to a folder their computer.

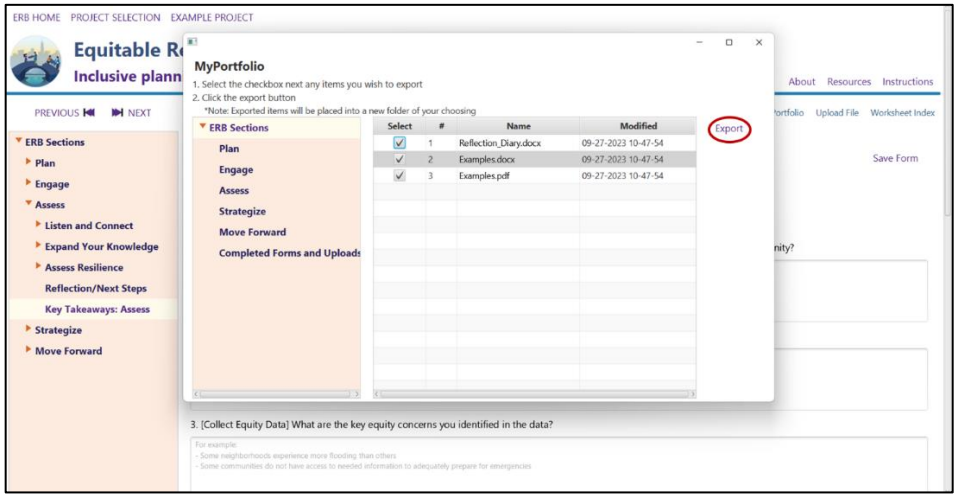

Figure 4-11 "My Portfolio" with files selected and the "Export" button circled

5 Using the ERB Tool in Resilience Planning

Each section of the ERB tool presents a set of activities to assist with different aspects of local resilience planning (Table 5-1). Each section is sequential and builds on the materials produced in the preceding section. Users can either work through all the sections or browse and select activities *a la carte*.

Table 5-1 Activities in Each Section of the ERB Tool

Section	What is it?	What will you do?
Plan	This section describes a process to get started with your ERB project	* assemble a team * set goals * review ERB activities * write a project plan
Engage	This section provides resources and activities to help you plan and get started with equitable community engagement	* explore equity in engagement * identify and diagram community connections * develop a Community Engagement Plan * start engaging
Assess	This section encourages collaboration with your community to assess hazards, equity, and resilience in the community and the creation of connections around resilience	* plan and convene a Listen and Connect Workshop * collect additional targeted data * plan and convene an Assess Resilience Workshop * reflect and plan next steps
Strategize	This section builds on information from previous workshops to continue to collaborate with your community to prioritize actions	* plan and convene a Results to Action Workshop *identify and evaluate actions to take * reflect and plan next steps
Move Forward	This section transitions from resilience planning to resilience implementation	* begin to take action * maintain outreach and engagement * use monitoring to support future actions * reflect and celebrate * document your project

5.1 Plan

This initial section provides activities that help users focus on inclusion and equity during project planning. This includes examination of representation of the planning team itself and internal storytelling to guide goal setting.

Activities in this section:

- Get a core team together
- Core team kickoff
- Explore equitable resilience
- Team storytelling
- Set goals for using ERB
- Select ERB activities
- Make a project plan
- Reflection and next steps

Section outputs:

- A core team to lead the ERB project
- Storytelling exercise results

- A list of goals
- A project plan

5.2 Engage

The second section of the ERB tool provides guidance on increasing inclusion and equity in future community engagement activities. While users might already be working with community groups in various ways, the activities in this section can expand and update current actions.

Activities in this section:

- Empathize with and reduce barriers to participation
- Equity and Engagement Exercise
- Identify and diagram community connections
- Create a Community Engagement Plan
- Start community engagement
- Reflection and next steps

Section outputs:

- A completed Community Engagement Plan
- Expanded connections with local groups
- Awareness of how to reduce barriers to participation

5.3 Assess

This section provides extensive guidance for incorporating community voices in resilience planning actions via two distinct workshop events. This section also includes directions for users to collect, find, manage, and put to work various kinds of data that inform resilience planning, including local experience.

Activities in this section:

- Workshop 1. Community Relationships and Listening
    - Plan for the workshop while centering equity
    - Workshop activity options:
        - Share stories about hazards and equity
        - Explore future scenarios
        - Build relationships
- Gather More Information
    - Decide on, gather, and manage information on what topics to learn more about and how to collect local or online data on hazards, equity, and resilient systems
- Workshop 2. Collaborative Assessment
    - Plan for the workshop in collaborative way
    - Workshop activity options:
        - Participatory mapping
        - Sorting resilience indicators
        - Equity discussion

Section outputs:

- Local knowledge and other data to use in resilience planning
- Key Takeaways to use in the next section on how to strategize for taking action

5.4 Strategize

In this section, users put to work all the community data collected in the previous sections by working collaboratively to prioritize actions and assemble action teams to begin implementation.

Activities in this section:

- Storytelling about implementation success and pitfalls
- Problem statement identification
- Results to Action workshop with community members

Section outputs:

- A list of key actions
- Stronger connections with local organizations and residents
- Next steps and commitments to implement action

5.5 Move Forward

Resilience planning is an ongoing process. This section provides activities for users to maintain and monitor actions into the future, as well as recommendations for reflection and celebration with community of the work done thus far.

Activities in this section

- Document the project
- Outreach and engagement
- Take next steps on identified actions
- Prepare for ongoing monitoring and learning
- Reflect and celebrate

Section outputs:

- Activities and results saved in “My Portfolio”
- A monitoring plan
- Next steps for implementation
- Next steps for outreach and engagement

5.6 Tailor the process to *your* needs

The ERB tool is designed to allow flexibility for users. While each section builds on the last in a stepwise fashion, users might have already completed some activities prior to their use of the ERB tool, or do not have the resources to commit to all activities. The ERB tool allows users to move around within the tool and select the most relevant activities for their needs.

Additionally, users face differing types of hazards and vulnerabilities in their communities. As an all-hazards tool, the ERB tool provides support for addressing many different hazards, including acute and long-term climate change hazards as well as intentional or accidental chemical, biological, or nuclear releases.

In each section, different pathways are provided as examples and recommendations for different user types.

5.6.1 How have other communities used the ERB tool?

Example pathways for customizing the ERB process are presented in the tables below (Table 5-2, Table 5-3, Table 5-4).

Table 5-2 Examples of Communities Using ERB Tool

Example	Description
Community Example 1	An EPA Regional staff member and a community organizer for environmental justice (EJ) are working together to convene and activate a new group of community members in a rural county with EJ issues to address disaster preparedness.
Community Example 2	A local environmental education and advocacy organization is leading the development of a watershed resilience plan and wants to incorporate equity into the plan.
Community Example 3:	A county emergency manager is tasked with leading a committee to update the county's Hazard Mitigation Plan. The previous plan has plenty on natural hazards but has not incorporated lessons learned from the COVID-19 pandemic.

Table 5-3 Goal-Setting Examples

Lead organization	Resilience planning	Core team priorities	Goals
EPA Regional staff & community organization	Emergency preparedness planning	Disasters and environmental justice	•Bring together and empower community leaders and members, especially those who have not gotten together before, to discuss EJ issues •Increase community members' knowledge about emergency preparedness •Identify potential actions for the group to take
Local environmental organization	Watershed resilience plan development	Include equity into watershed planning	•Collect input for the resilience plan from community members in the watershed, particularly with a focus on equity issues •Bring together local environmental organizations, neighborhood associations, and other groups who might not have worked together before
County emergency manager	Updating a county hazard mitigation plan	Incorporate lessons from COVID-19 pandemic	•Improve the plan's social vulnerability assessment •Incorporate pandemics and other biological incidents into the plan

Table 5-4 Examples of Activity Selection by Different Types of Users

Lead Organization	ERB fits into existing	Goals for using ERB	Activity Selection (√ = included some or all; O = skipped)				
			Plan	**Engage**	**Assess**	**Strategize**	**Move Forward**
EPA Region, community-based organization	Emergency prepared-ness planning	Address EJ in disaster risk reduction	✓	✓	✓	✓	o
			Get a core team together	Diagram community connections	Hazards storytelling Collect hazards data	Define action areas	[beyond scope]
Local environmental organization	Watershed resilience planning	Include equity in resilience plan	o	o	✓	o	✓
			[already had a work plan and team]	[Already had strong connections]	Hazards storytelling Participatory mapping	[limited technical capacity, time]	Monitor
County emergency manager	Hazard mitigation plan update	Incorporate lessons from COVID-19 pandemic	✓	o then ✓	✓	✓	✓
			Select goals & activities Create project plan	[Initially not due to time; it emerged as a priority]	Collect hazards, equity, resilient systems data	Brainstorm actions Strategy chart	Implement actions

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