**Mapping Activity Preparation**

**Overview**

## [Purpose](#_[Name_of_Chapter)

To generate the community maps and collect any necessary external information in preparation for the Participatory Mapping Activity in Workshop 2.

## What you will need

**How long will it take:** 1-2 hours

**Materials:** internet access, printer, community maps

## Instructions

Follow the steps below to prepare your maps for the mapping activity. There are 2 options depending how much hazards and equity data the team has.

## Steps to prepare map. Option 1: core team did not collect hazards or equity data as part of Expand Your Knowledge

1. As a core team, determine both the information you are trying to learn from **and** relay to the community. This may be guided by the information your team learns in hazards storytelling exercise. Guiding questions:
	1. What specific types of hazards exist in your community?
	2. Who is most impacted?
	3. Where do disproportionately impacted members of the community live and work?
	4. Future threats (Climate change)?
2. Generate a large map of the community (minimum suggested size is 2 by 3 feet). Choose maps that are appropriate for the scale of your project. For example, if you are interested in looking at how different neighborhoods may be affected by hazards, choose a map that includes Census tracts or block groups.
3. **If performing the community workshop in person:** Print large enough maps that multiple people can work on them simultaneously. You will need one map for each planned breakout group and one map that will be labeled with all the information from the breakout maps. Space the maps with enough room for several people to work on them at once.

**If performing the community workshop virtually:** Download shareable maps.

## Steps to prepare map. Option 2: core team did collect hazards or equity data as part of Expand Your Knowledge

1. As a core team, determine both the information you are trying to learn from **and** relay to the community. This may be guided by the information your team learns in the Hazards activity, Equity activity, and Storytelling activity. Guiding questions:
	1. What specific types of hazards exist in your community?
	2. Who is most impacted?
	3. Where do disproportionately impacted members of the community live and work?
	4. Future threats (climate change)?
2. Use the data gathered from your research on hazards and equity in the community and lessons from community storytelling to select 3-5 base layer maps of the community (block group or census tract level data). This selection is up to the core team and what they believe best depict equity and resilience in the community.
	1. Base layer options may include:
		1. % Population below poverty level
		2. % Population without high school diploma
		3. % Population in rented housing
		4. % Households without a vehicle
		5. % Population with limited English
		6. % Population racial/ethnic groups
	2. Available mapping tools:
		1. [U.S. Census Data Equity Tools](https://www.census.gov/about/what/data-equity/tools.html)
		2. EPA’s [EJ Screen](https://ejscreen.epa.gov/mapper/)
		3. [FEMA Resilience Analysis and Planning Tool (RAPT)](https://fema.maps.arcgis.com/apps/webappviewer/index.html?id=90c0c996a5e242a79345cdbc5f758fc6)
		4. [Neighborhoods at Risk](https://nar.headwaterseconomics.org/)
3. Use available mapping tools to label relevant built and natural risks and climate change threats. These should be labeled on all base layer maps.
	1. Risks and hazards may include, but are not limited to:
		1. Flood zones
		2. Low lying roads
		3. Hazardous facilities
		4. Waste Sites
		5. High heat areas (urban heat island effect)
4. **If performing the community workshop in person:** Print large enough maps that multiple people can work on them simultaneously. You will need one map for each planned breakout group and one map that will be labeled with all the information from the breakout maps.

**If performing the community workshop virtually:** Download shareable maps.

**Mapping Activity**

## Instructions

*Note: These instructions provide guidance on mapping both community hazards and community assets. However, some communities may want to focus more time on one or the other. We encourage the core team to alter these instructions as they see fit to spend more time on assets if appropriate.*

1. Take one of the community maps, separate the community into 4-5 sections. It may be helpful to follow census tract or block group boundary lines, so no part of the community is missed. Depending on the size of your community, each section may contain several census tracts/block groups. Try to avoid dividing major neighborhoods/districts (i.e., downtown, uptown, defined residential neighborhoods, shopping districts). Do not divide the community into more sections than the number printed maps you have. Apply these boundary lines to each map and label each section.
2. Split into the same number of breakout groups as map sections. Aim to have at least 2-3 community members in each group. If possible, join groups working on map sections where you live or work. Core team members are encouraged to join break out groups to participate and help facilitate mapping and group discussions.

*Note: If you find there are no community members who live or work in a section of the map it may be an indicator that you need to target future outreach to improve representation of all parts of the community*.

1. Circle, shade-in, or otherwise mark on the map areas where community members disproportionately impacted by hazards live and work based on what you learned from the storytelling activity, your knowledge of the community, and/or any external data presented by the Core team. If your map already incorporates base layer data about the community (e.g., % population with limited English, % households without a vehicle), use your knowledge of the community to determine if any additional map points should be marked and add them to your section of the map.
2. Bring together all internal (hazard storytelling, group discussions, etc.) and external information (research on local hazards and equity) you now know about your community and start marking on the map sections the locations of current or existing hazards and impacts (e.g., locations particularly prone to flooding, high heat areas in the community). Use small sticky notes of different colors for hazards and impacts.
3. Based on what you found in the hazards data, your knowledge of past local disasters, and any information you know about climate change impacts in your community, mark potential locations of new or worsened hazards in the future (e.g., flooding due to sea level rise, overflow of wastewater treatment facilities, runoff from waste sites, erosion of bridges or roads, or an oil spill from train derailment into the creek.)
4. Discuss whether any of these impacts may be "cascading impacts", that is, if an impact in one location could cause impacts in other locations. For example, overflow of a wastewater treatment plant during heavy rains may pollute local water bodies and/or spread contaminants to low-lying areas of the community. Draw lines to connect these impacts.
5. What assets exist in the community that provide support and improve the community’s capacity to confront current and future hazards? Make a list of types of community assets (community centers, afterschool programs, schools, hospitals, religious buildings, emergency response departments) and mark any of these that exist in your map area with colored sticky notes. Discuss with your group what specific benefits these assets provide, e.g., emergency shelters during disasters, sense of belonging in the community, emergency services.
6. The core team member in your group will record themes and highlights as you answer the following discussion questions based on what you observed while completing the mapping activity. If there is not a member of the core team in your breakout group, assign a notetaker.
	1. What were the common types of hazards you labeled in your area of the map?
	2. Given the hazards you labeled on the map, what concerns do you have regarding climate change in the community?
	3. Did you notice any patterns in where hazards are located and the locations of disproportionately impacted members of the community? Are specific community members being affected more?
	4. What types of assets exist in your section of the map? Do the services they provide assist with the needs presented by the hazards your identified? How?
7. All members of the community will reconvene as a large group and the core team will facilitate a discussion on what was learned using the following prompt questions. At least one member of the core team should be assigned as a notetaker and another as the discussion facilitator.
	1. Who is being most impacted by local hazards and how?
	2. What are the biggest threats facing the community, now and in the future, we need to deal with?
	3. Were there any gaps identified between benefits provided by community assets and the current and future hazards facing the community?
	4. How are these hazards and threats connected? What are the "cascading impacts"?

Example:

* Flooding in Belleview and Adams neighborhoods is getting worse.
* During the last big storm 12 houses were flooded, and some people still haven’t moved back in.
* Adams neighborhood is better protected than other neighborhoods, and people are starting to move into Adams, adding to gentrification pressure.
* Belleview has a large Central American population and many small businesses which had to close for a day during the last storm.
* The water treatment plant is in the flood plain and needs upgrades. Sometimes it goes offline during flood events. This is problematic especially for the hospital and the nuclear energy plant.

## Breakout group discussion prompts

1. What were the common types of hazards you labeled in your area of the map?
2. Given the hazards you labeled on the map, what concerns do you have regarding climate change in the community?

1. Did you notice any patterns in where hazards are located and the locations of disproportionately impacted members of the community? Are specific community members being affected more?
2. What types of assets exist in your section of the map? Do the services they provide assist with the needs presented by the hazards your identified? How?

## Large group discussion prompts

1. Who is being most impacted by local hazards and how?
2. What are the biggest threats facing the community, now and in the future, we need to deal with?
3. Were there any gaps identified between benefits provided by community assets and the current and future hazards facing the community?
4. How are these hazards and threats connected? What are the “cascading impacts”?