

PA Planning Integration Data Resources

4/23,24,25,29

Will Melville – Data Section Lead, FEMA Region 3 Mitigation



FEMA

FEMA's Strategic Plan

Goal 1: Instill Equity as a Foundation of Emergency Management

- Disasters impact people and communities differently.
- Every disaster has a unique context based on a community's characteristics
- We need to tailor solutions designed to meet each community's unique needs.



Goal 2: Lead whole of community in climate resilience

Justice40

- Whole-of-Government Initiative, Executive Order 14008
- Goal that 40 percent of the overall benefits of certain Federal investments flow to disadvantaged communities that are marginalized, underserved, and overburdened by pollution

JUSTICE40

A WHOLE-OF-GOVERNMENT INITIATIVE



▶ ENVIRONMENTAL JUSTICE

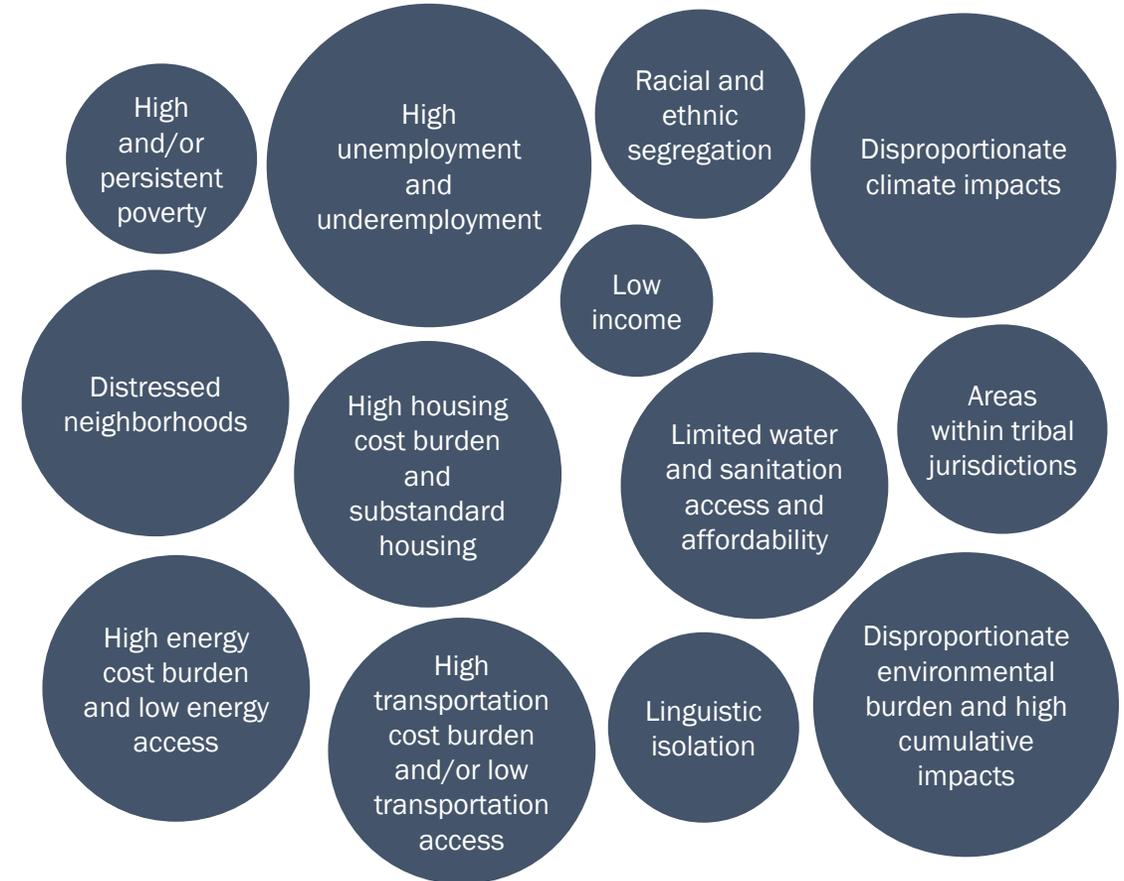
“We’ll create good jobs for millions of Americans...and we’ll do it all to withstand the devastating effects of climate change and promote environmental justice.”

PRESIDENT JOE BIDEN, 2022 STATE OF THE UNION

Justice40 Initiative

- BRIC, FMA and Swift Current are HMA programs that direct 40% of funding disadvantaged communities.
- These covered programs under the Justice40 Initiative will aim to deliver at least 40% of the overall benefits of climate, clean energy, affordable and sustainable housing, clean water and other investments to disadvantaged communities.

Disadvantaged communities may be characterized by:



National Risk Index

Purpose

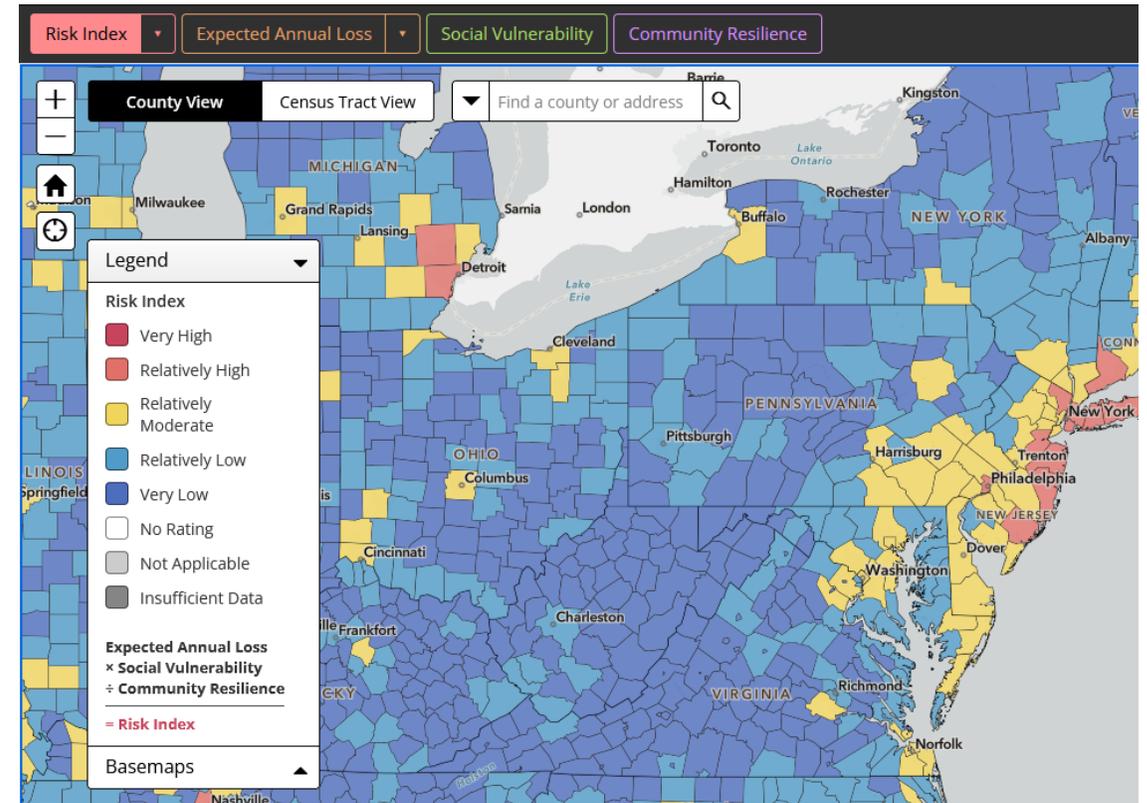
The National Risk Index is a dataset and online tool to help illustrate the United States communities most at risk for [18 natural hazards](#). It was designed and built by FEMA in close collaboration with various stakeholders and partners in academia; local, state and federal government; and private industry.

Use Cases

Enhancing hazard mitigation plans, Encouraging community-level risk communication and engagement, Educating new homeowners and renters, Identifying the need for more refined risk assessments, Prioritizing and allocating resources.

Audience

Intended users of the National Risk Index include planners and emergency managers at the local, regional, state, and federal levels, as well as other decision makers and interested members of the general public.



URL

<https://hazards.fema.gov/nri/map>

Data Highlight

Climate Mapping For Resilience and Adaptation

Purpose

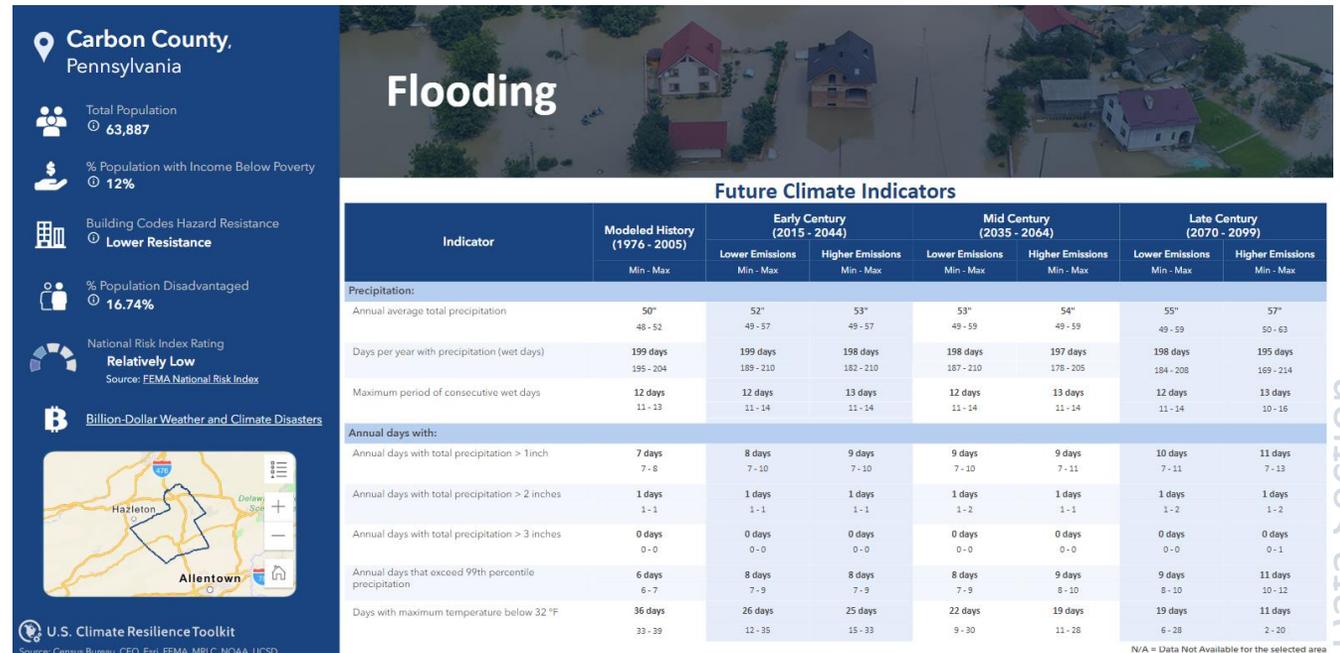
The Climate Mapping for Resilience and Adaptation (CMRA) Assessment tool provides current and future climate hazard information to assist federal agencies and the recipients of federal funds with prioritizing, identifying, and implementing climate-informed infrastructure investments. Captures Heat, Drought, Wildfire, Flooding, Coastal Inundation.

Use Cases

Identify communities that can benefit from Federal investments in climate resilience through the [Justice40 Initiative](#). Review proposed projects by entering addresses into the assessment tool or using a point on the map. Generate PDF reports for your locality based on different hazards.

Audience

Whether you're a local resilience planner, a grant officer, a program analyst, or just interested in climate impacts.



URL

<https://resilience.climate.gov/>

Data Highlight

Carbon County, Pennsylvania



Total Population
① 63,887



% Population with Income Below Poverty
① 12%



Building Codes Hazard Resistance
① Lower Resistance



% Population Disadvantaged
① 16.74%



National Risk Index Rating
Relatively Low

Source: FEMA National Risk Index



Billion-Dollar Weather and Climate Disasters



U.S. Climate Resilience Toolkit

Sources: Census Bureau, CBO, Esri, FEMA, MRLC, NOAA, UCSD



Flooding

Future Climate Indicators

Indicator	Modeled History (1976 - 2005) Min - Max	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
		Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Precipitation:							
Annual average total precipitation	50" 48 - 52	52" 49 - 57	53" 49 - 57	53" 49 - 59	54" 49 - 59	55" 49 - 59	57" 50 - 63
Days per year with precipitation (wet days)	199 days 195 - 204	199 days 189 - 210	198 days 182 - 210	198 days 187 - 210	197 days 178 - 205	198 days 184 - 208	195 days 169 - 214
Maximum period of consecutive wet days	12 days 11 - 13	12 days 11 - 14	13 days 11 - 14	12 days 11 - 14	13 days 11 - 14	12 days 11 - 14	13 days 10 - 16
Annual days with:							
Annual days with total precipitation > 1 inch	7 days 7 - 8	8 days 7 - 10	9 days 7 - 10	9 days 7 - 10	9 days 7 - 11	10 days 7 - 11	11 days 7 - 13
Annual days with total precipitation > 2 inches	1 days 1 - 1	1 days 1 - 1	1 days 1 - 1	1 days 1 - 2	1 days 1 - 1	1 days 1 - 2	1 days 1 - 2
Annual days with total precipitation > 3 inches	0 days 0 - 0	0 days 0 - 0	0 days 0 - 0	0 days 0 - 0	0 days 0 - 0	0 days 0 - 0	0 days 0 - 1
Annual days that exceed 99th percentile precipitation	6 days 6 - 7	8 days 7 - 9	8 days 7 - 9	8 days 7 - 9	9 days 8 - 10	9 days 8 - 10	11 days 10 - 12
Days with maximum temperature below 32 °F	36 days 33 - 39	26 days 12 - 35	25 days 15 - 33	22 days 9 - 30	19 days 11 - 28	19 days 6 - 28	11 days 2 - 20

N/A = Data Not Available for the selected area

Climate and Economic Justice Screening Tool Data Dictionary

Climate change

Communities are **identified as disadvantaged** if they are in census tracts that:

ARE at or above the 90th percentile for [expected agriculture loss rate](#) OR [expected building loss rate](#) OR [expected population loss rate](#) OR [projected flood risk](#) OR [projected wildfire risk](#)

AND are at or above the 65th percentile for [low income](#)

Energy

Communities are **identified as disadvantaged** if they are in census tracts that:

ARE at or above the 90th percentile for [energy cost](#) OR [PM2.5 in the air](#)

AND are at or above the 65th percentile for [low income](#)

Health

Communities are **identified as disadvantaged** if they are in census tracts that:

ARE at or above the 90th percentile for [asthma](#) OR [diabetes](#) OR [heart disease](#) OR [low life expectancy](#)

AND are at or above the 65th percentile for [low income](#)

Housing

Communities are **identified as disadvantaged** if they are in census tracts that:

Experienced [historic underinvestment](#) OR are at or above the 90th percentile for [housing cost](#) OR [lack of green space](#) OR [lack of indoor plumbing](#) OR [lead paint](#)

AND are at or above the 65th percentile for [low income](#)

Data Dictionary

Legacy pollution

Communities are **identified as disadvantaged** if they are in census tracts that:

Have at least one [abandoned mine land](#) OR [Formerly Used Defense Sites](#) OR are at or above the 90th percentile for [proximity to hazardous waste facilities](#) OR [proximity to Superfund sites \(National Priorities List \(NPL\)\)](#) OR [proximity to Risk Management Plan \(RMP\) facilities](#)

AND are at or above the 65th percentile for [low income](#)

Transportation

Communities are **identified as disadvantaged** if they are in census tracts that:

ARE at or above the 90th percentile for [diesel particulate matter exposure](#) OR [transportation barriers](#) OR [traffic proximity and volume](#)

AND are at or above the 65th percentile for [low income](#)

Water and wastewater

Communities are **identified as disadvantaged** if they are in census tracts that:

ARE at or above the 90th percentile for [underground storage tanks and releases](#) OR [wastewater discharge](#)

AND are at or above the 65th percentile for [low income](#)

Workforce development

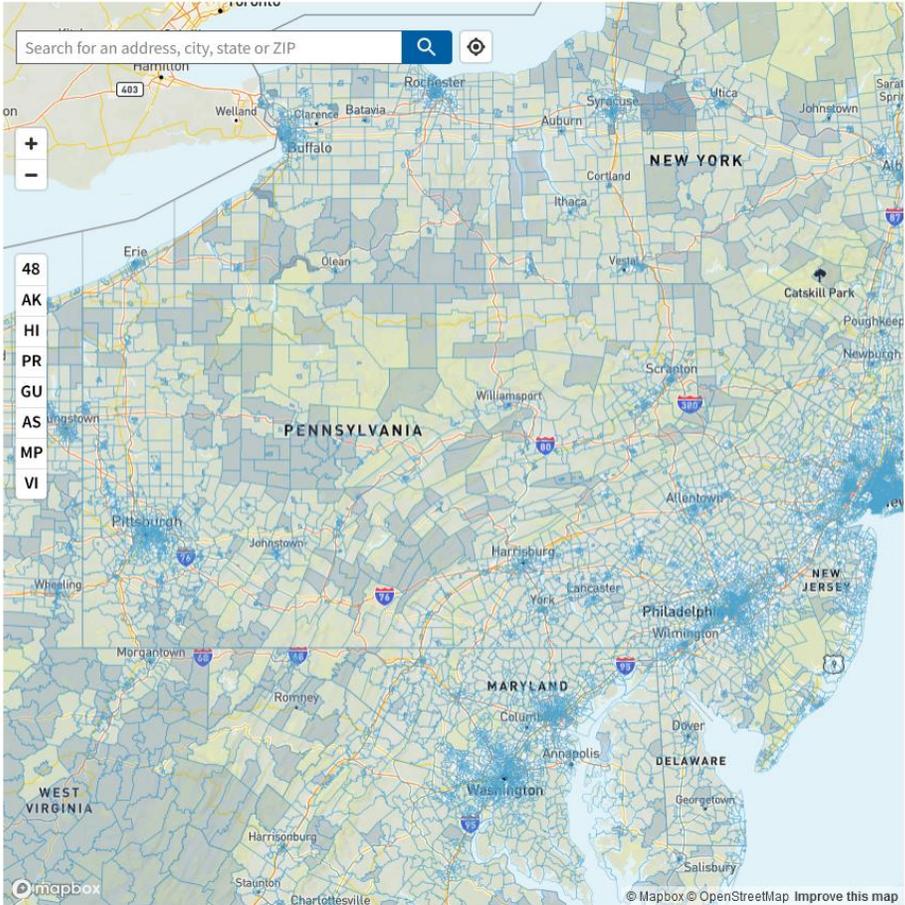
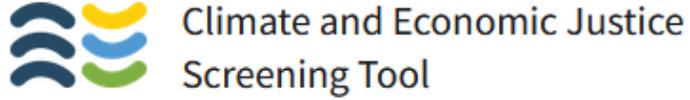
Communities are **identified as disadvantaged** if they are in census tracts that:

ARE at or above the 90th percentile for [linguistic isolation](#) OR [low median income](#) OR [poverty](#) OR [unemployment](#)

AND more than 10% of people ages 25 or older have a [high school education](#) (i.e. graduated with a high school diploma)

Climate and Economic Justice Screening Tool (CEJST)

Data Download:



How to use the map:

Zoom in +, search 🔍, or locate yourself 📍 and select to see information about any census tract.

Things to know:

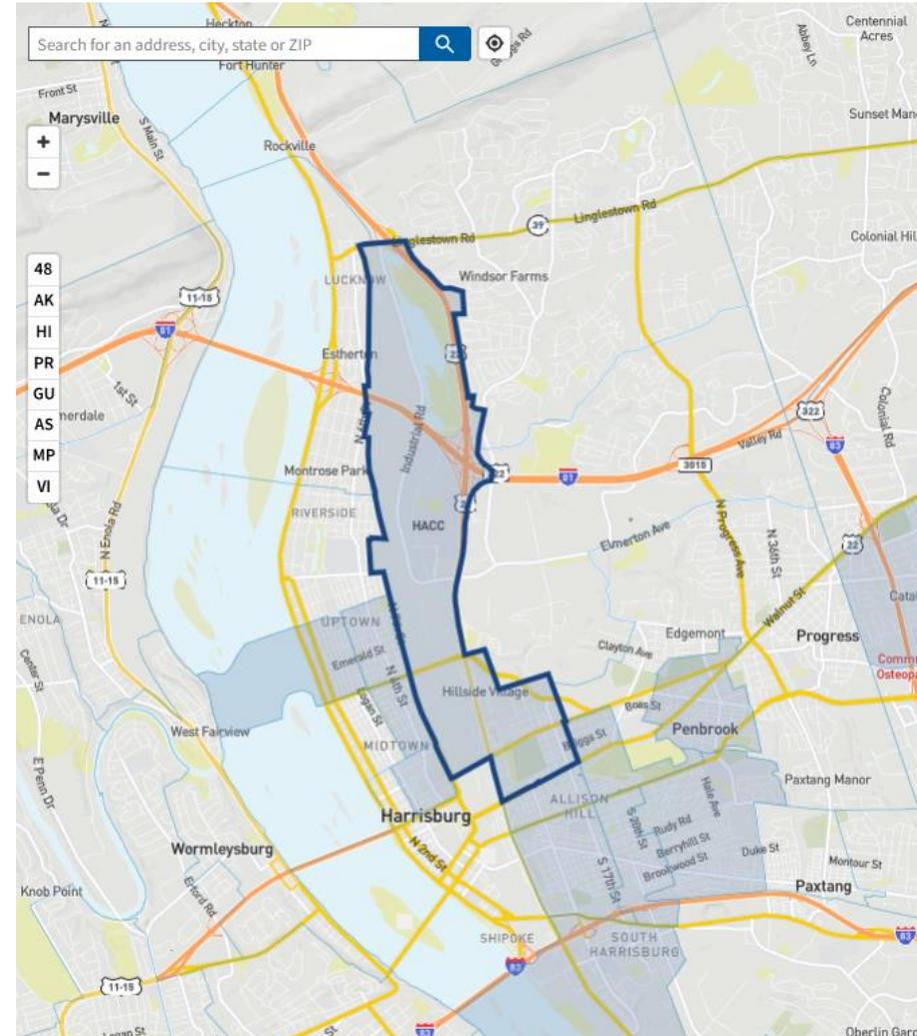
The tool uses census tracts 🗺️. Census tracts are a small unit of geography. They generally have populations 🧑 of between 1,200 - 8,000 people.

Communities that are disadvantaged live in tracts that experience burdens. These tracts are highlighted 🟦 on the map.

The tool ranks most of the burdens using percentiles 📊. Percentiles show how much burden each tract experiences when compared to other tracts.

Thresholds 📏, or cutoffs, are used to determine if communities in a tract are disadvantaged. Certain burdens use percentages 📈 or a simple yes/no ✓.

Land within the boundaries



Tract information
 Number: 42043021100
 County: Dauphin County
 State: Pennsylvania
 Population: 2,955

Tract demographics
 Race / Ethnicity (show ▾)
 Age (show ▾)

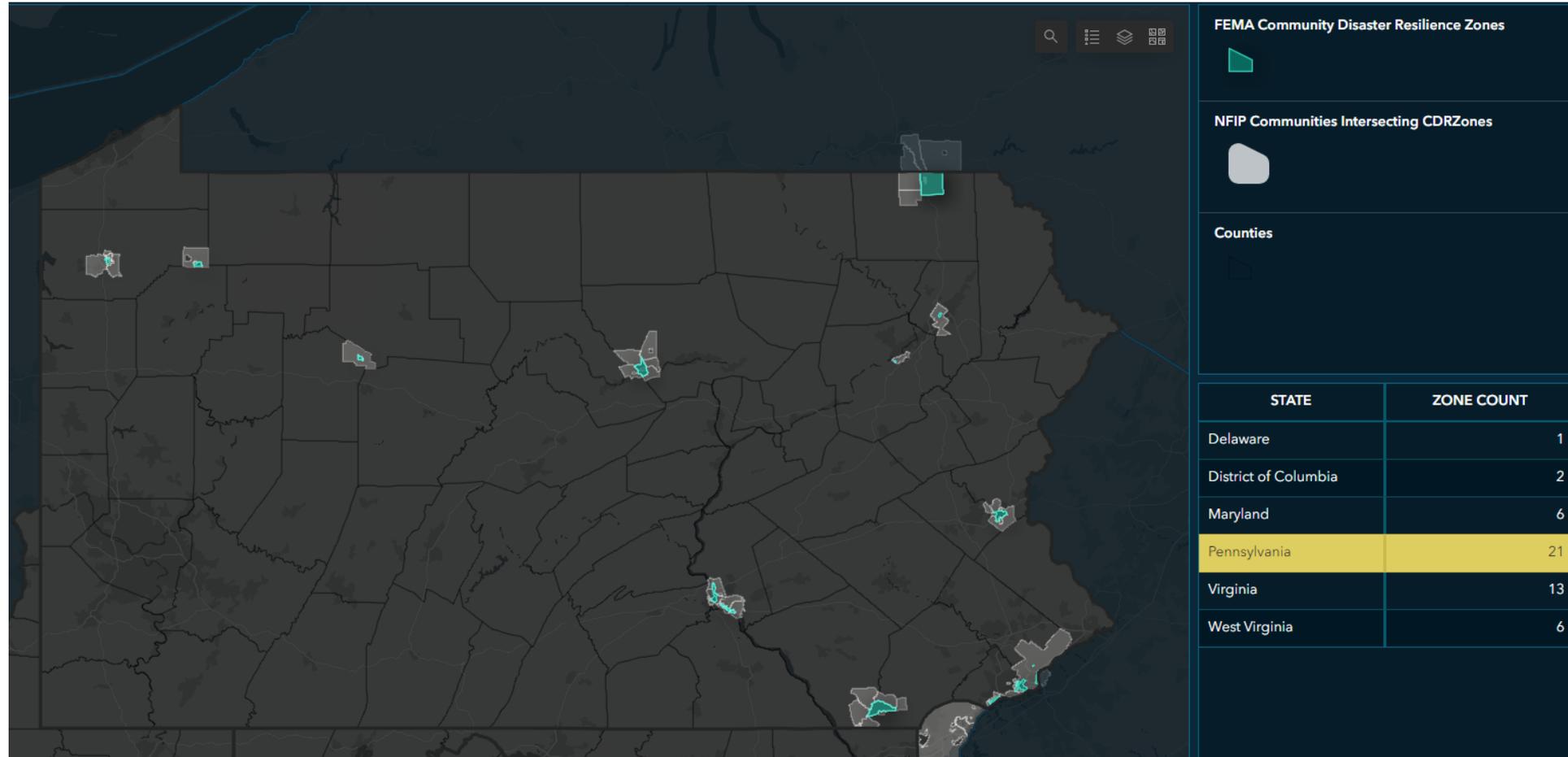
Identified as disadvantaged?
YES

This tract is considered disadvantaged because it meets more than 1 burden threshold AND the associated socioeconomic threshold.

Send feedback 📧

- Climate change ● +
- Energy ● +
- Health ● +
- Housing ● +
- Legacy pollution ● +
- Transportation +
- Water and wastewater +
- Workforce development ● +

21 Pennsylvania CDRZs



FEMA

[Home | FEMA Community Disaster Resilience Zones \(arcgis.com\)](https://arcgis.com)

Demos

Community Disaster Resilience Zones (CDRZs)

In September 2023, FEMA designated an initial cohort of 483 census tracts as Community Disaster Resilience Zones (CDRZ)¹ – an initiative born out of bipartisan legislation² to help drive financial and technical support to areas that are most in-need and most at-risk from climate change and natural hazards

Refresh: What is a Community Disaster Resilience Zone?

The Community Disaster Resilience Zones (CDRZ) Act requires FEMA to utilize a natural hazard risk assessment index to identify census tracts which are most at risk from the effects of natural hazards and climate change. The **initial 483 census tracts** designated as CDRZs represent more than two million Americans in the most at-risk and in-need communities across every state.

Focus: Community-centered

The goal of CDRZ designations is to empower every sector – from private to social and public – to invest in and support a **holistic, community-driven approach** to building a more sustainable and resilient future.

Benefits: What does this mean for CDRZ communities?

Designation immediately qualifies CDRZ communities to be eligible for access to additional funding and technical assistance for resilience and mitigation projects:

- **FEMA Building Resilient Infrastructure and Communities (BRIC):** Increased federal cost share, Direct Technical Assistance, additional points on application, and Benefit Cost Analysis (BCA) Technical Assistance
- **FEMA Flood Mitigation Assistance (FMA):** Additional points on application and Benefit Cost Analysis (BCA) Technical Assistance

And as CDRZ grows, the benefits will expand:

- **Other federal agencies** may be reaching out through their regional networks to share additional dimensions of support
- **Increased access** to resources and resilience stakeholder network - coming soon!

1. FEMA: <https://www.fema.gov/CDRZ>

2. Community Disaster Resilience Zones Act of 2022

The Community Disaster Resilience Zones (CDRZ) Act of 2022 received broad bipartisan support

The Motivation Behind the CDRZ Act:

- Major disasters have continued to increase in number and cost. Available pre-disaster mitigation funding has fallen far short of demand.
- Every \$1 spent on pre-disaster mitigation saves on average \$6 in future disaster losses but vulnerable communities face challenges accessing pre-disaster mitigation funding.
- Disasters don't impact all equally. The intent of the act is to direct resources toward those most in need of building community resilience.
- CDRZ ensures FEMA continues to make the National Risk Index, or a similar tool, available to the public to easily assess a community's natural hazard risk and social vulnerability.



FEMA

Source: Multi-organization [CDRZ support letter](#) to Chairman DeFazio and Ranking Member Graves, April 27, 2022.

Source: <https://www.congress.gov/congressional-report/117th-congress/senate-report/141/1>

A wide array of organizations supported CDRZ Act passage:

1. After the Fire: Recover. Rebuild. Reimagine. (ATF3R)
2. American Council of Engineering Companies (ACEC)
3. American Institute of Architects (AIA)
4. American Planning Association (APA)
5. American Property Casualty Insurance Association (APCIA)
6. American Society of Civil Engineers (ASCE)
7. American Society of Landscape Architects (ASLA)
8. Big City Emergency Managers (BCEM)
9. BuildStrong Coalition
10. Center for Climate and Energy Solutions (C2ES)
11. Central United States Earthquake Consortium (CUSEC)
12. Ecological Restoration Business Association (ERBA)
13. Insurance Institute for Business & Home Safety (IBHS)
14. International Association of Emergency Managers (IAEM)
15. International Code Council (ICC)
16. Interstate Council on Water Policy (ICWP)
17. National Association of Counties (NACo)
18. National Association of Mutual Insurance Companies (NAMIC)
19. National Emergency Management Association (NEMA)
20. National Institute of Building Sciences (NIBS)
21. National Special Districts Coalition (NSDC)
22. National Wildlife Federation (NWF)
23. R Street Institute
24. Reinsurance Association of America (RAA)
25. SBP Resilience Innovation Hub
26. Taxpayers for Common Sense (TCS)
27. The Council of Insurance Agents & Brokers (CIAB)
28. U.S. Chamber of Commerce
29. US Resiliency Council (USRC)

FEMA made CDRZ designations based on widely known, transparent, and understood measures of natural hazard risk and vulnerability

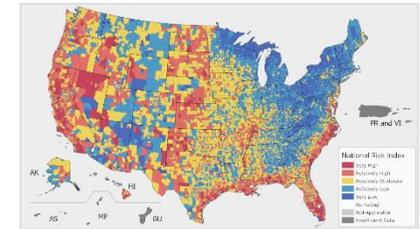
In September 2023, **FEMA** announced the first 483 Community Disaster Resilience Zones (CDRZ) across all 50 states and D.C.

More designations – including in territories and tribal nations – are expected to be announced in early 2024



Census tracts were designated CDRZ based on the following criteria¹:

- ✓ A composite National Risk Index (NRI)²: Risk Index Scores that rank in the top 50 nationally or is in the top 1% within their state
- ✓ A disadvantaged community based on the Climate & Economic Justice Screening Tool



All designations underwent peer review by subject matter experts in a Methodology Data Working Group with support from the FEMA Mitigation Framework Leadership Group (MitFLG)

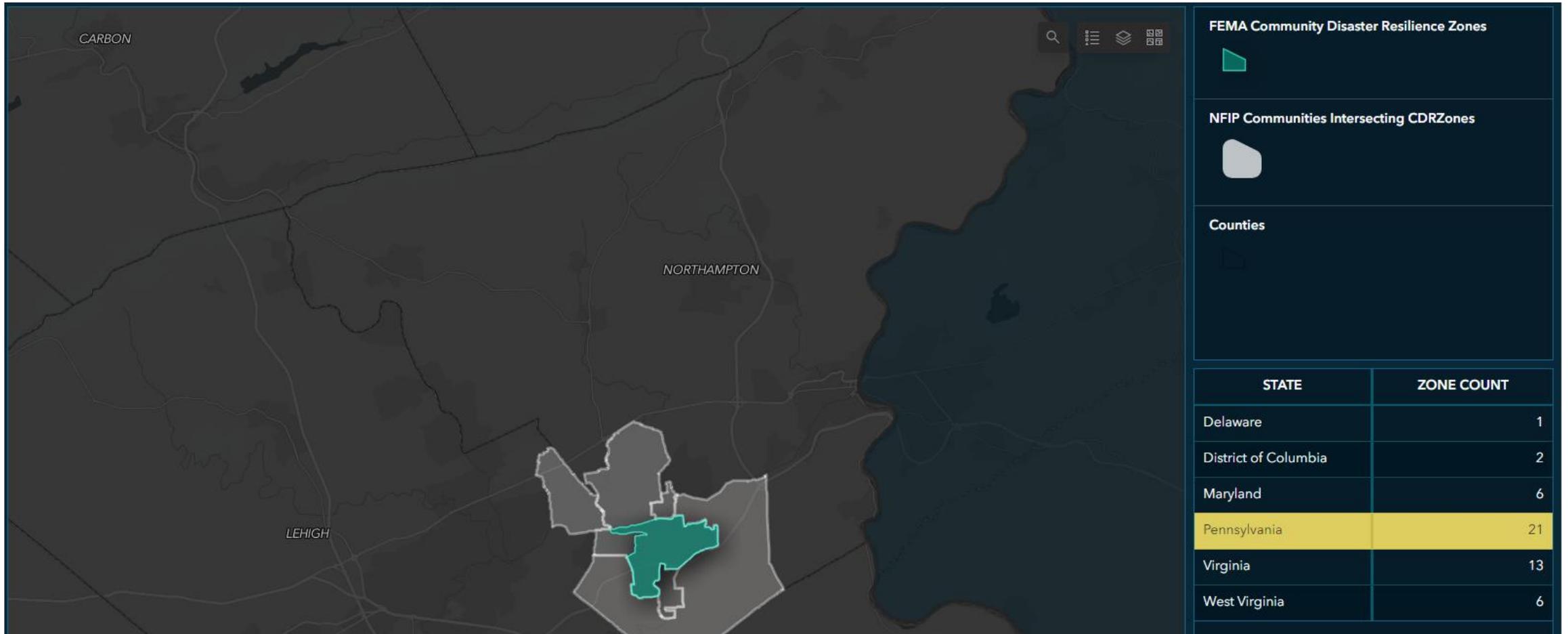


FEMA

1. FEMA CDRZ Methodology, August 28, 2023

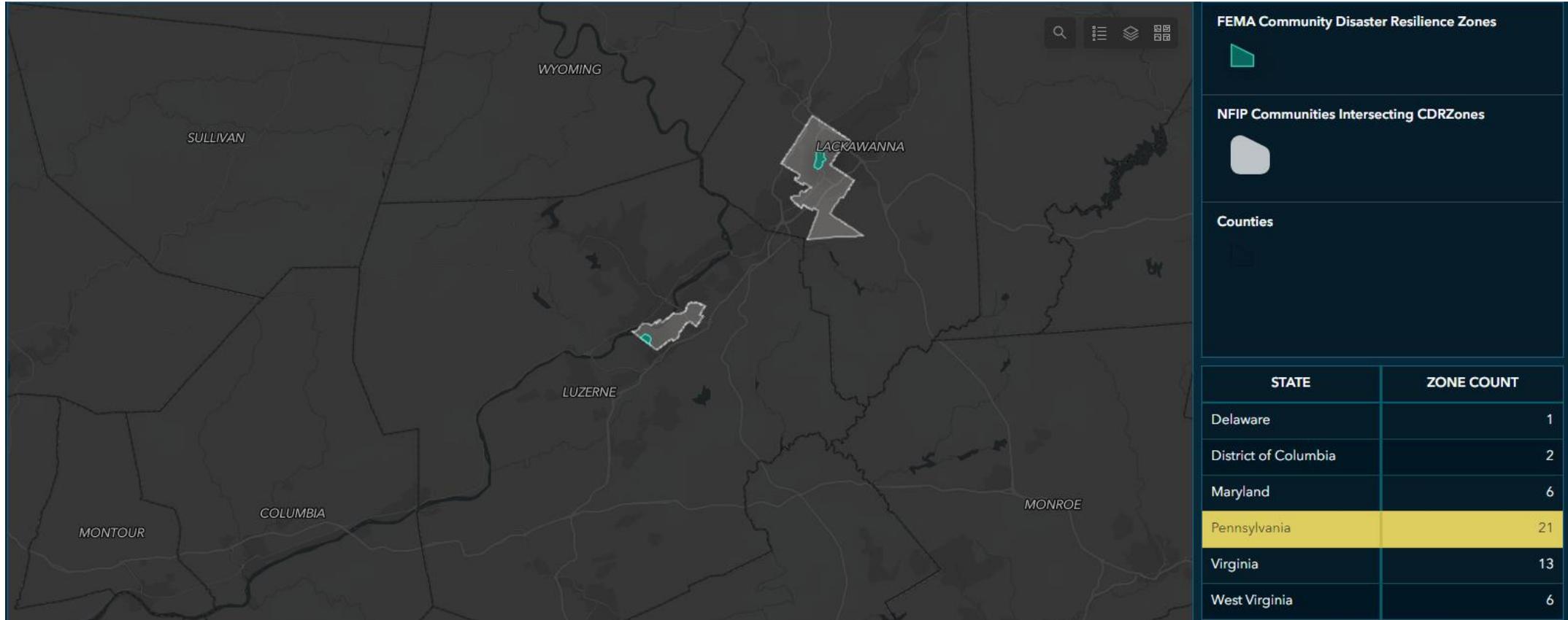
2. 91 entities contributed to the creation of the NRI: <https://hazards.fema.gov/nri/contributors>

1 Bethlehem City, Pennsylvania CDRZ



FEMA

Wilkes Barre Pennsylvania CDRZs



FEMA

CDRZ Benefits & Next Steps

Federal Resource Focus

FEMA is thrilled to announce commitments from the following programs from other Federal agencies to support, prioritize, and/or incorporate Community Disaster Resilience Zones:

TECHNICAL ASSISTANCE

- **National Oceanic and Atmospheric Administration (NOAA)** Climate-Smart Communities Initiative Program
- **Environmental Protection Agency (EPA)** Environmental Justice Thriving Communities Technical Assistance Centers (EJ TCTACs)
- **Environmental Protection Agency (EPA)** Environmental Justice Thriving Communities Grantmaking Program (EJ TCGM)
- **Environmental Protection Agency (EPA)** Community Change Equitable Resilience Technical Assistance (CCER TA)
- **Economic Development Administration** Economic Recovery Corps
- **Small Business Administration (SBA)** Small Business Development Center (SBDC), Women’s Business Centers (WBC), Veteran’s Business Outreach Centers (VBOC) and Native American Business Centers (NABC)
- **Department of Agriculture (USDA)** Rural Partners Network

GRANT FUNDING

- **Environmental Protection Agency (EPA)** Environmental and Climate Justice Community Change Grants Program (Community Change Grants)
- **Housing and Urban Development (HUD)**. Green and Resilient Retrofits Program (GRRP)
- **Department of Transportation (USDOT)** Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) Program



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FEMA Benefits for Designated Zones

Today, the primary benefit of a designation is access to additional funding and technical assistance for resilience and mitigation projects, but going forward the goal is to significantly increase access to resources from across sectors.

Immediate Benefits

Building Resilient Infrastructure and Communities (BRIC)

- Increased Cost Share (up to 90%)
- a CDRZ Act discretionary authority
- Direct Technical Assistance
- Additional application points
- Benefit cost technical assistance

Flood Mitigation Assistance (FMA)

- Additional application points
- Benefit cost technical assistance

Anticipated Benefits

- Support from non-profit and philanthropic organizations and for-profit entities.
- Increased access to resilience stakeholder network for localities
- Increased awareness of local needs
- Increased access to both funding and technical assistance
- Leveraging partner knowledge
- Potential to unleash private capital



Get Ready at the Local Level

How to leverage a Community Disaster Resilience Zones designation and prepare your communities in your counties to absorb public and private capital.

Identify Potential Partnerships

- **Identify local cross-sector, grassroots partners**
- **List out local business, CBOs, public infrastructure (e.g. hospitals, schools, etc.)**

Conduct Needs Assessment

- **Map community assets and conduct needs assessment**
- **Consider applying for BRIC Direct Technical Assistance**

Begin Plan for Potential Investments

- **Confirm and evaluate quality of Mitigation Plan**– ensure it meets strategic priorities and can generate a project pipeline
- **Match plan to specific capital investments**
- **Identify other local plans that may be relevant (e.g. capital improvement, comprehensive planning, open space)**



Our aspiration is that CDRZ designation will catalyze support to communities that goes well beyond what government alone can do

Today, the primary benefit of a designation is access to additional funding and technical assistance for resilience and mitigation projects, but going forward **the goal is to significantly increase access to resources from across sectors**



FEMA



Support from non-profit and philanthropic organizations and for-profit entities



Increased access to resilience stakeholder network for localities



Increased awareness of local needs and leveraging partner knowledge



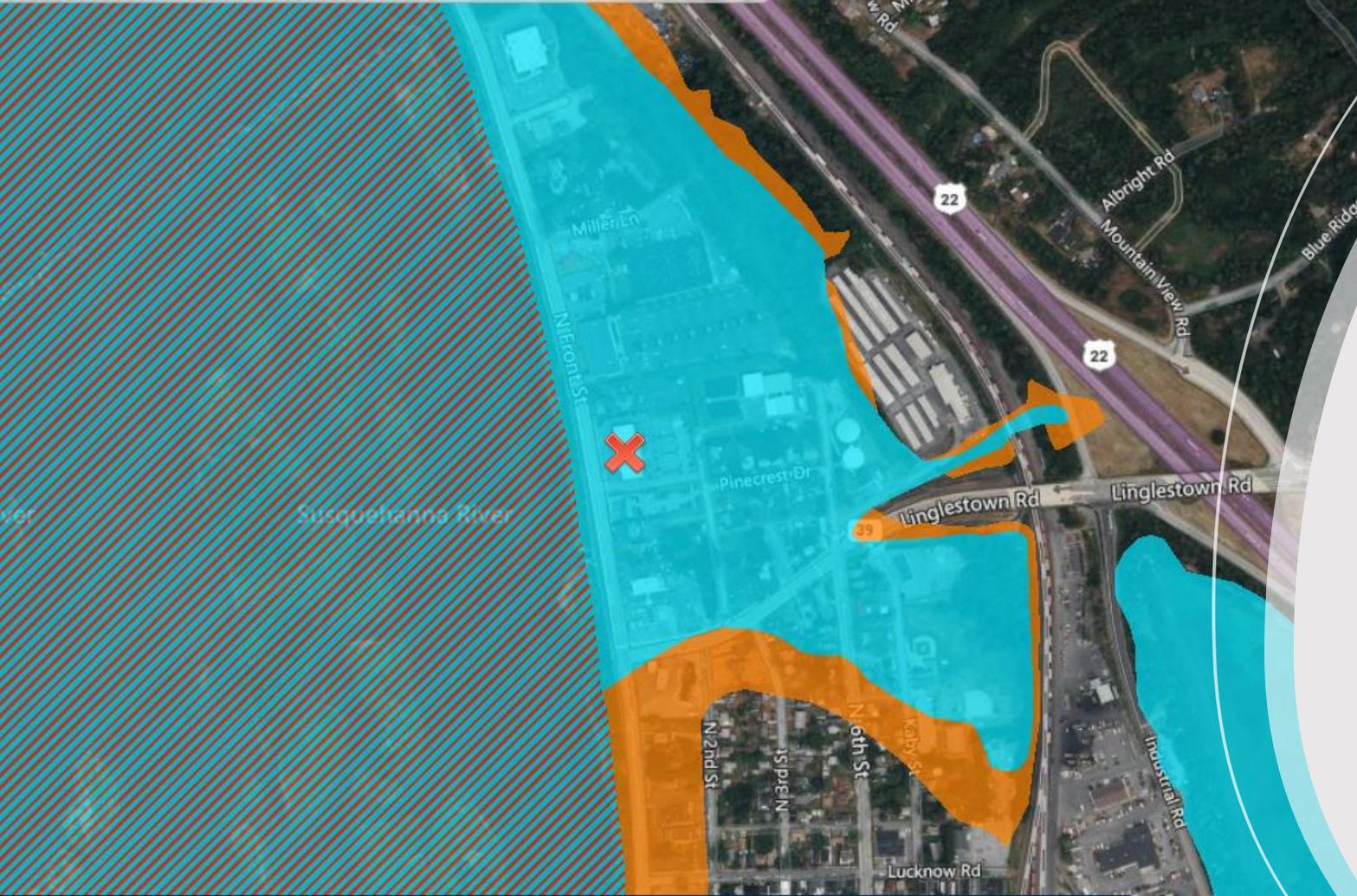
Increased access to both funding and technical assistance



Potential to unleash private capital



Certification of projects benefiting designated zones



▼ Hide Legend

Effective F

- 1% A
- Re

PA Flood Risk Tool – Floodplain/NFIP Outreach

- Identify flood hazard level for properties and communities
- Uses FEMA data to demonstrate risk in a public-friendly way
- Visualize Flood Depths
- Does not replace Flood Insurance Rate Maps – links to FIRMs for official FEMA designations
- Managed by [PASDA](#) - Penn State CTP

Flood Risk Summary

Address: 4423 N Front St, Ste 1-2, Harrisburg, Pennsylvania, 17110

Flood Information

Zone: AE
 Community Rating System Class: 10
 Stream name: no data found

Location

Parcel:
 HUC8: Lower Susquehanna-Swatara, Pennsylvania.
 Ground elevation (feet): 319
 County: Dauphin
 Municipality: Susquehanna

Download

[Risk Summary Report](#)
[DFIRM Panel](#)

R3 Mitigation GIS and Data Hub

Access FEMA maps, resources, and products.

This hub site shares resources that helps identify high-risk areas, assess potential disaster impacts, and coordinate mitigation efforts. It also offers educational resources for preparedness and mitigation strategies. Additionally, information about Region 3 FEMA projects, plans and initiatives are available through the linked maps.

Mitigation Maps Content

[Browse Applications](#)

Floodplain Mapping & Insurance 	Risk Assessment & Planning 	State & District Flood Tools 
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Climate & Adaptation 	Equity & Community Engagement 	FEMA Internal 
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Purpose

Mitigation Maps and Data show a variety of information pertaining to the Region III States of West Virginia, Delaware, Virginia, Maryland, Pennsylvania, and DC.

Use Cases

One stop shop for Region 3 and National Mitigation Data

Audience

Public

[FEMA Region 3 Mitigation GIS \(arcgis.com\)](https://arcgis.com)

Questions?

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FEMA