



CLIMATE RESILIENCE: THE NEXT FRONTIER FOR COMMUNITY DEVELOPMENT IN THE CRITICAL CLIMATE DECADE

JOYCE COFFEE, PRESIDENT AND FOUNDER CLIMATE RESILIENCE CONSULTING

UNITED IN SUSTAINABILITY 7TH ANNUAL SUMMIT

FOR THE CREDIT UNION INDUSTRY

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LEARNING OBJECTIVES

- **Understand Key Climate Change Hazards and How they Relate to Community Development**
- **Explore the Intersection of Climate Change and Social Equity**
- **Identify Strategies for Climate Change Resilience**

CLIMATE HAZARDS AND VULNERABILITY

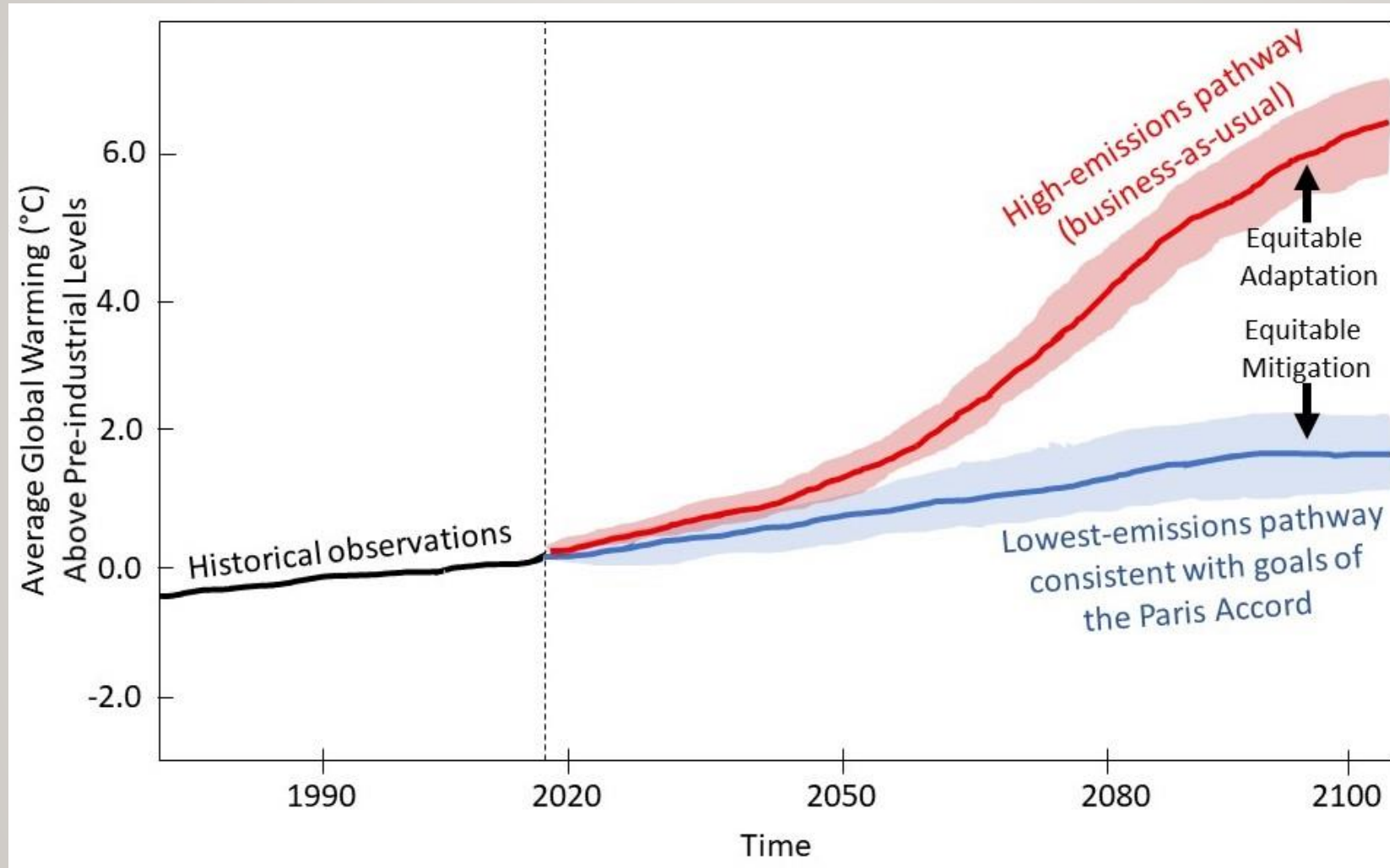


Changing climate • More and worsening extremes



Aging infrastructure • Deferred maintenance • Changing technology • Unsustainable land use

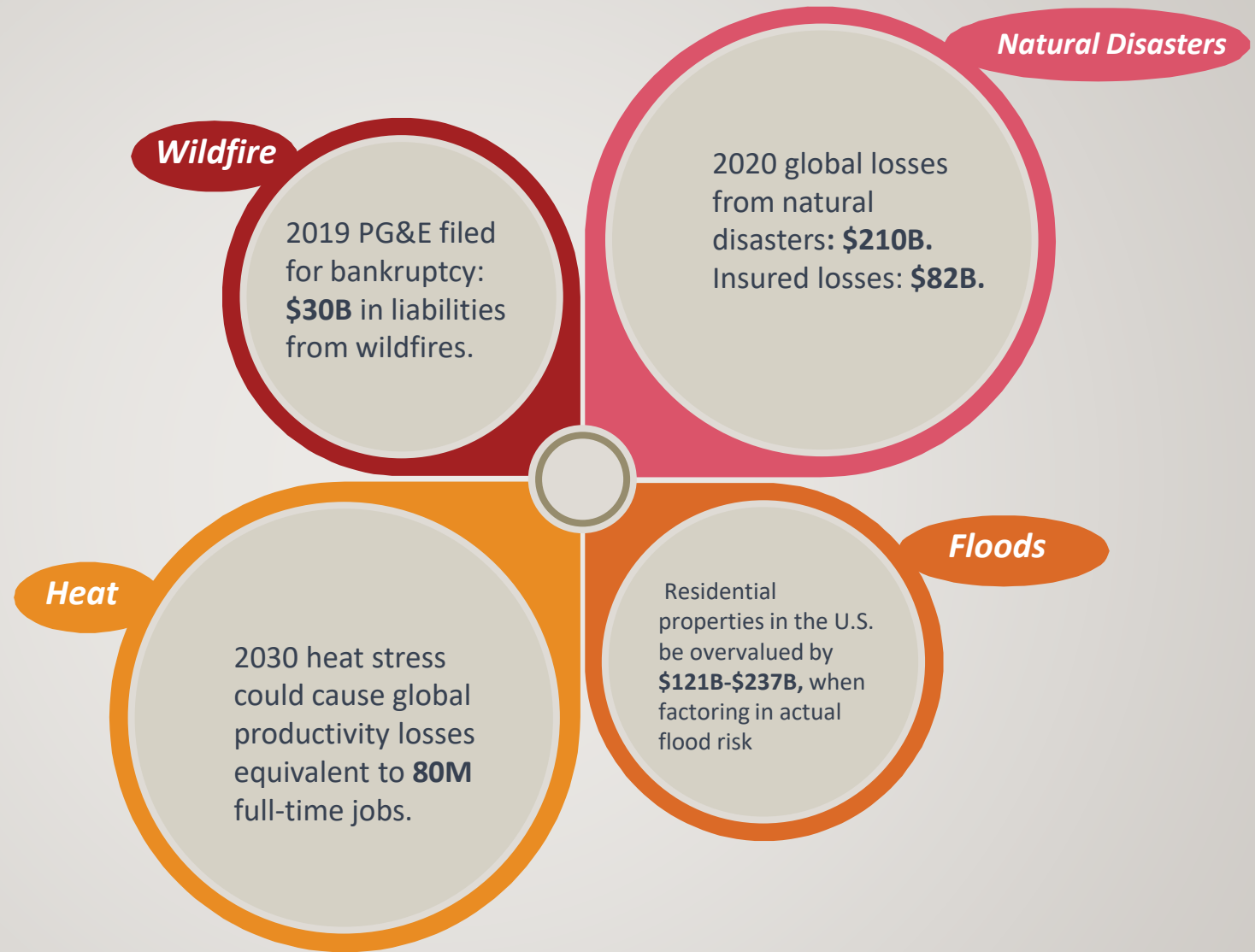
CLIMATE ADAPTATION GOALS DEPEND ON CLIMATE MITIGATION



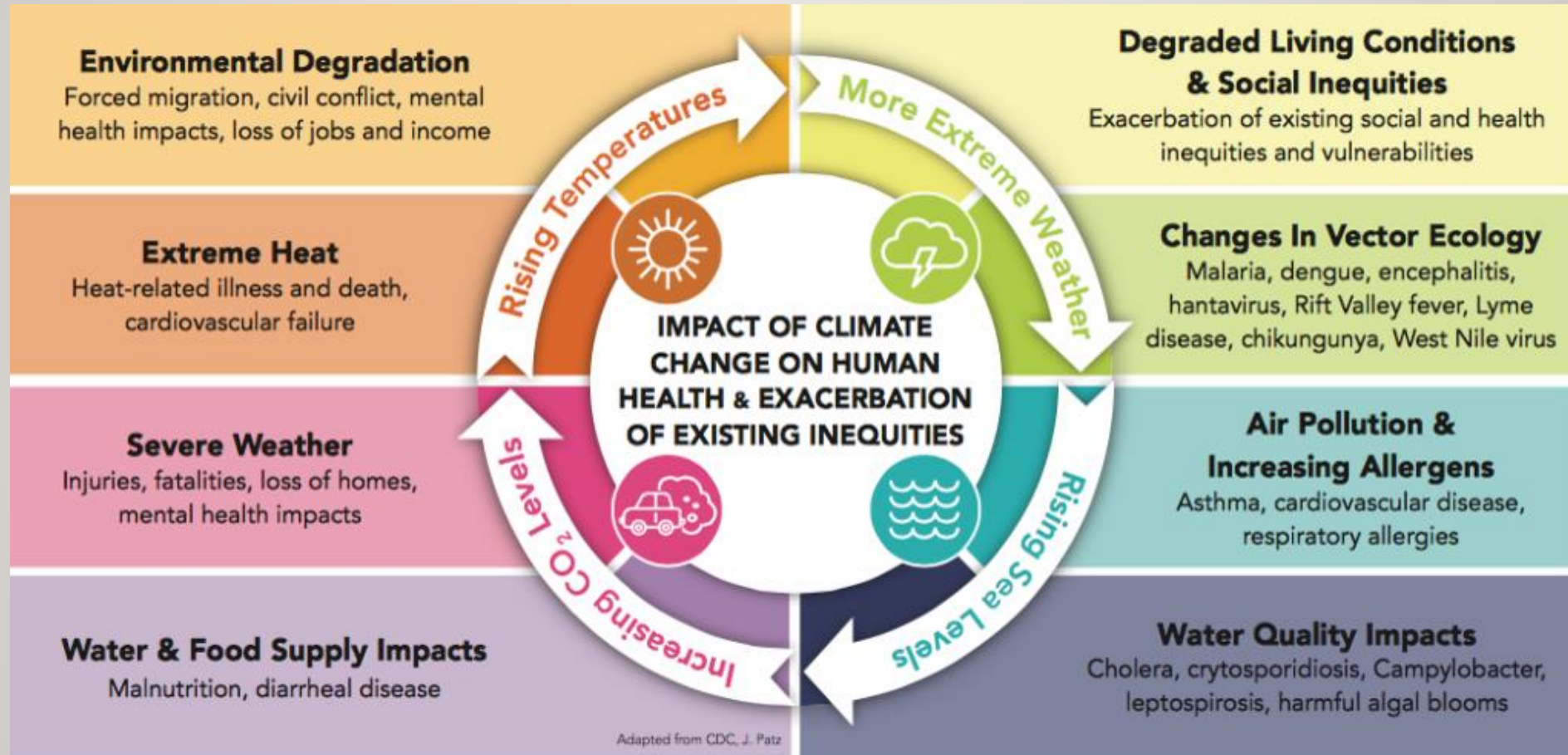
Prepare for
>4/5°C
(or whatever
globally realized
commitments
point to)

Aim for
1.5/2°C

SPECIFIC CLIMATE CHANGE ECONOMIC IMPLICATIONS

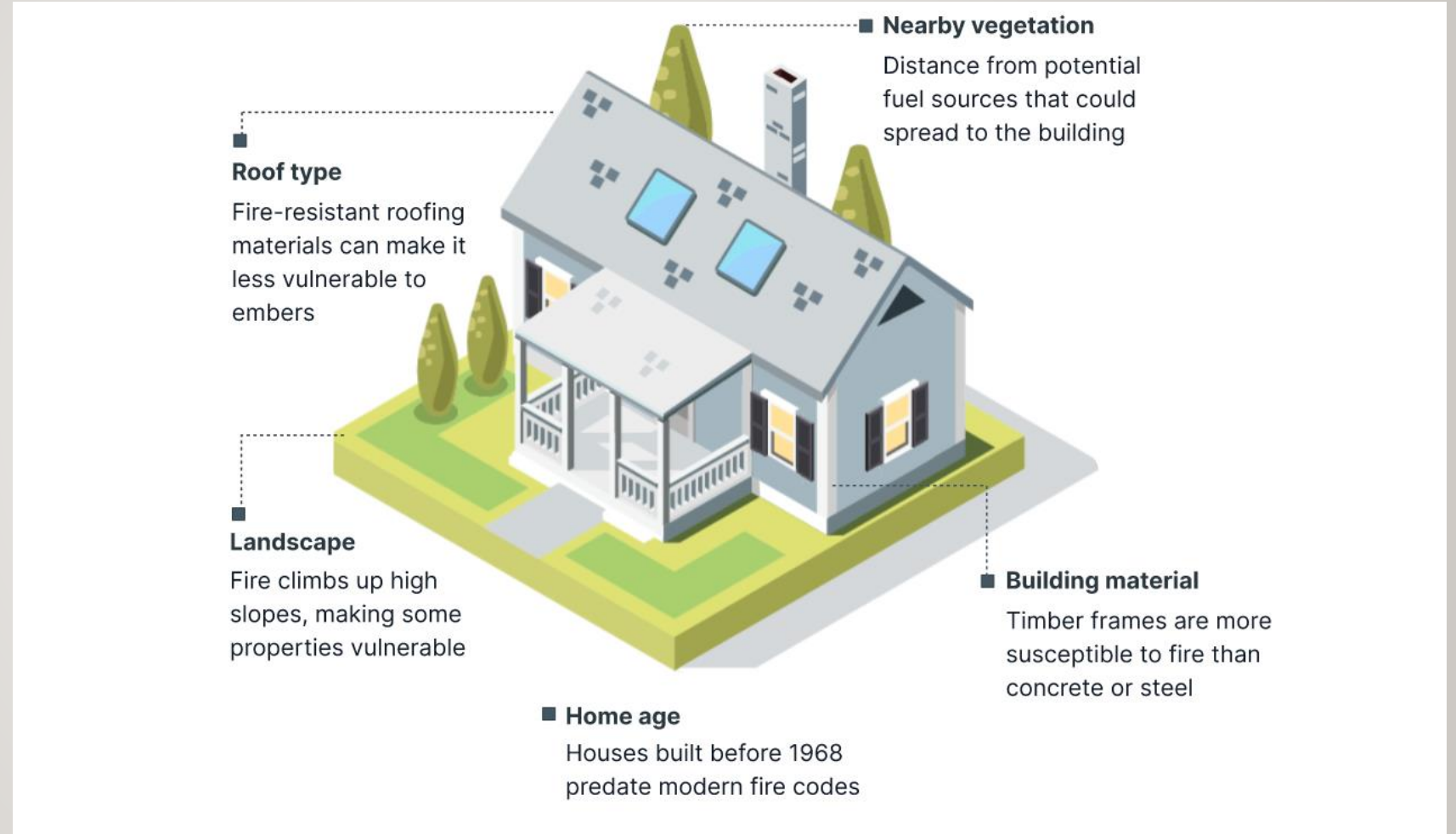


SPECIFIC CLIMATE CHANGE HEALTH IMPACTS



SOURCE: [Climate Change Action as a Catalyst for Healthy and Equitable Communities](#)

SPECIFIC CLIMATE CHANGE REAL ESTATE IMPACTS: 71.8 M US PROPERTIES AT RISK FROM WILDFIRE



Source: <https://riskfactor.com/about>

SPECIFIC CLIMATE CHANGE REAL ESTATE IMPACTS: FOUR MAJOR TYPES OF FLOODING AFFECT 23.7M US PROPERTIES



Tidal
King tides, Florida
2019.

Joe Raedi / Getty
Images



Riverine
Union, Nebraska,
2019.

Scott Olsen / Getty
Images



Rain
Trop. Storm Imelda,
Texas, 2019.

Thomas B. Shea /
Getty Images



Storm Surge
Hurricane Barry,
Louisiana, 2019

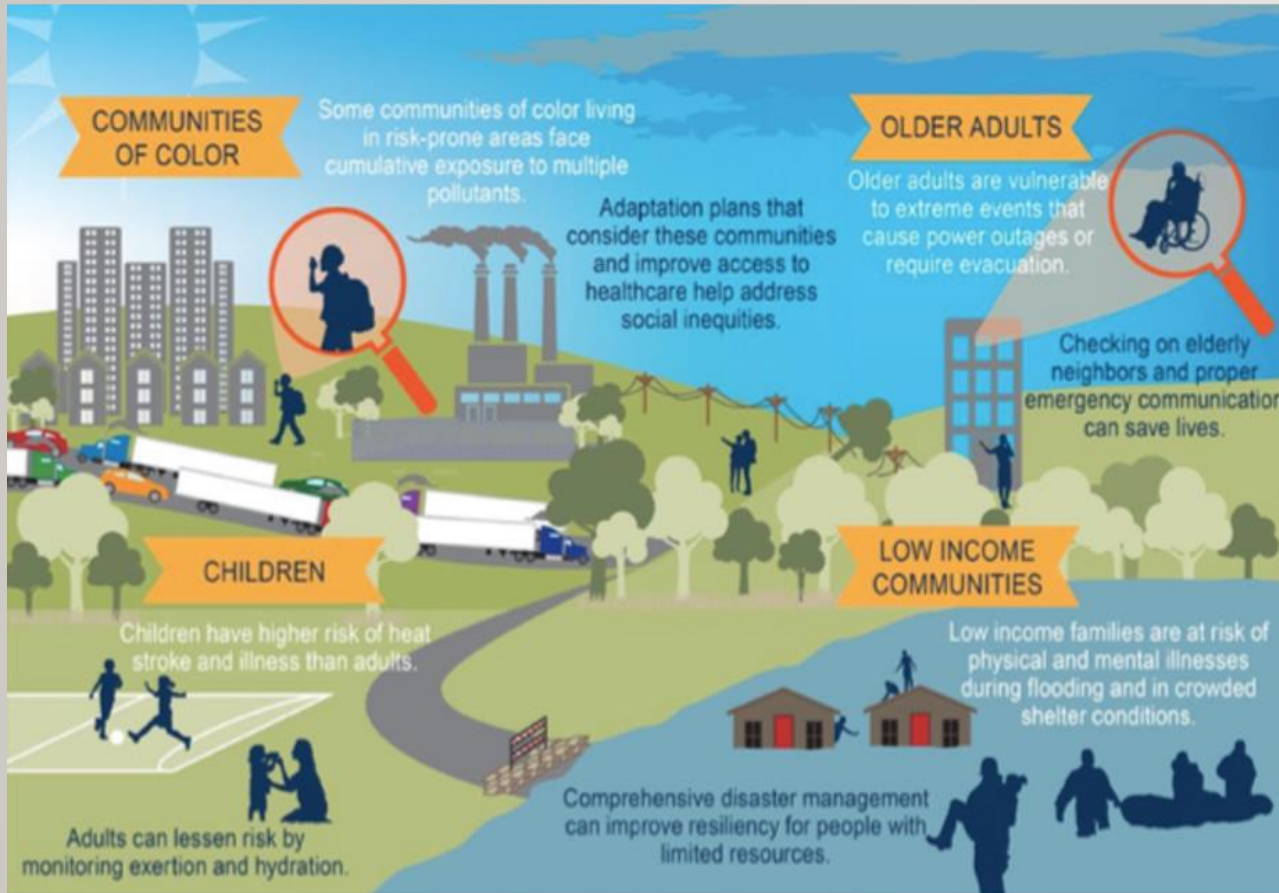
Scott Olsen / Getty
Images

+ Combined Sewer Overflow

Source: <https://riskfactor.com/about>

DISPROPORTIONATE RISK: CURRENT AND HISTORIC INEQUITIES

CLIMATE CHANGE DISPROPORTIONATE VULNERABILITY



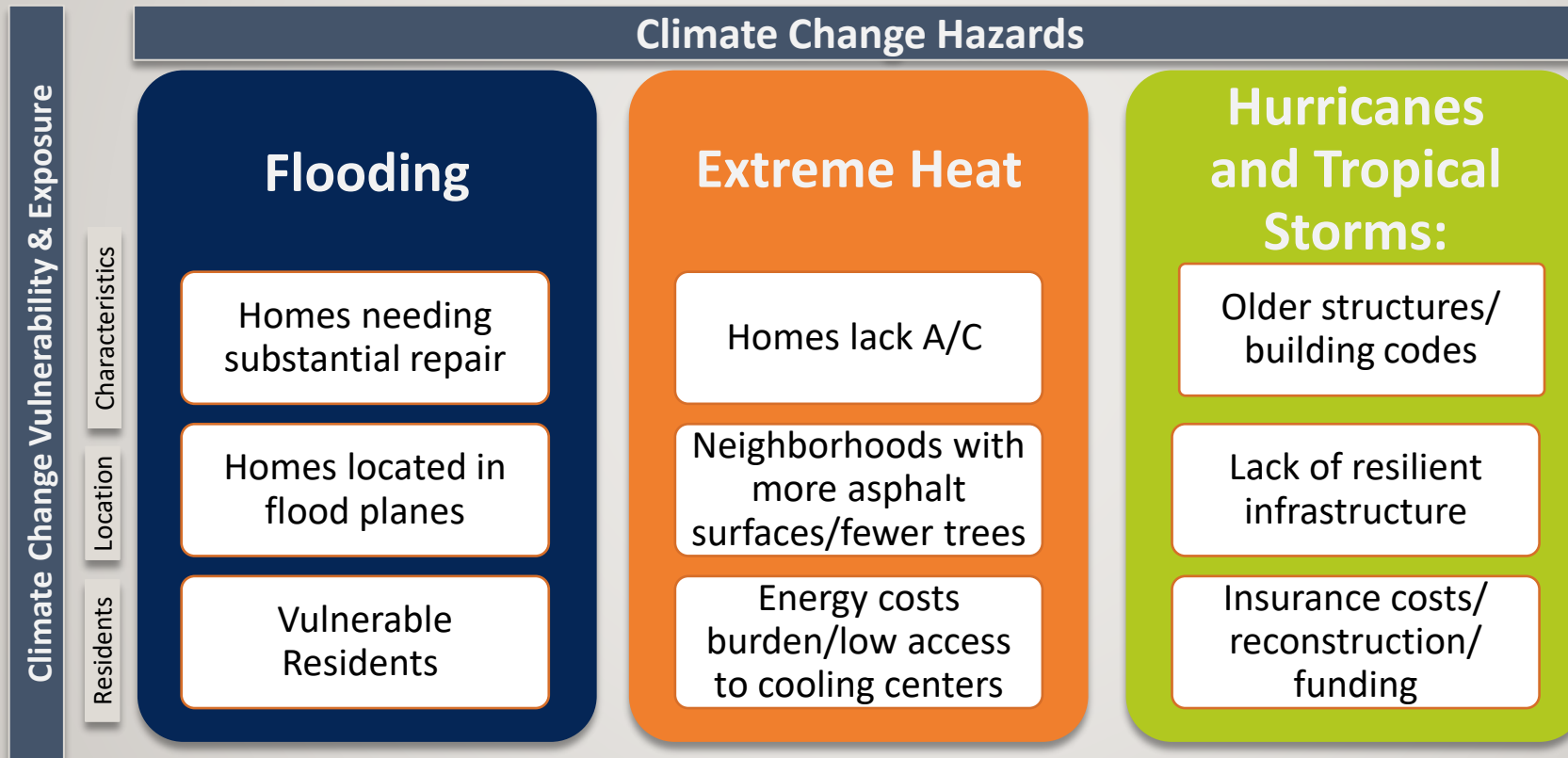
SOURCE: [Fourth US National Climate Assessment](#)

Overall Vulnerability

Socioeconomic Status	Below 150% Poverty
	Unemployed
	Housing Cost Burden
	No High School Diploma
Household Characteristics	No Health Insurance
	Aged 65 & Older
	Aged 17 & Younger
	Civilian with a Disability
Racial & Ethnic Minority Status	Single-Parent Households
	English Language Proficiency
	Hispanic or Latino (of any race)
	Black or African American, Not Hispanic or Latino
Housing Type & Transportation	Asian, Not Hispanic or Latino
	American Indian or Alaska Native, Not Hispanic or Latino
	Native Hawaiian or Pacific Islander, Not Hispanic or Latino
	Two or More Races, Not Hispanic or Latino
	Other Races, Not Hispanic or Latino
	Multi-Unit Structures
	Mobile Homes
	Crowding
	No Vehicle
	Group Quarters

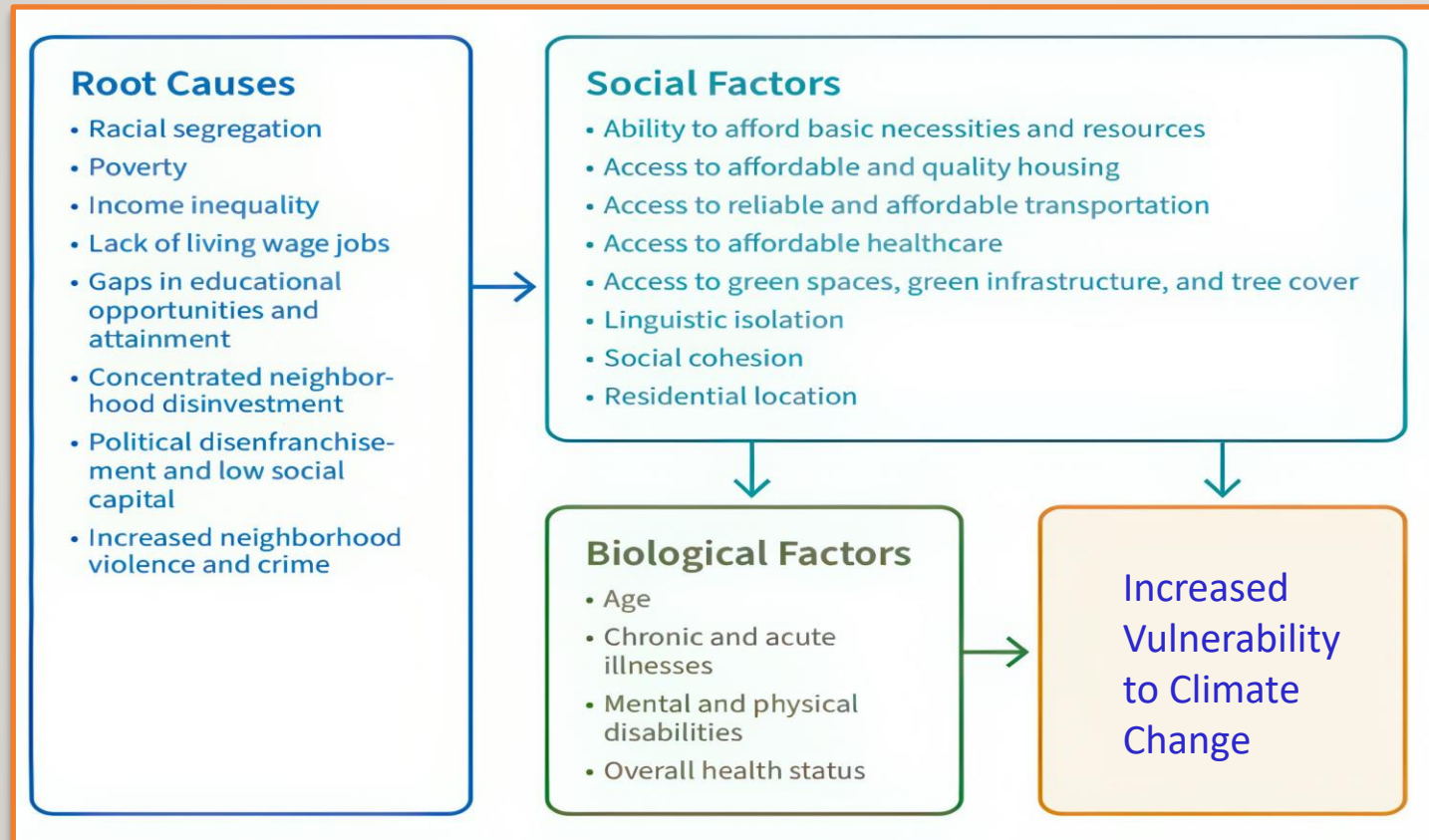
SOURCE: [CDC Social Vulnerability Index](#) (required by FEMA)

EQUITABLE RESILIENCE REQUIRES ASSESSING CLIMATE CHANGE HAZARDS ALONG WITH HOUSING CHARACTERISTICS, LOCATION, AND RESIDENT DEMOGRAPHICS



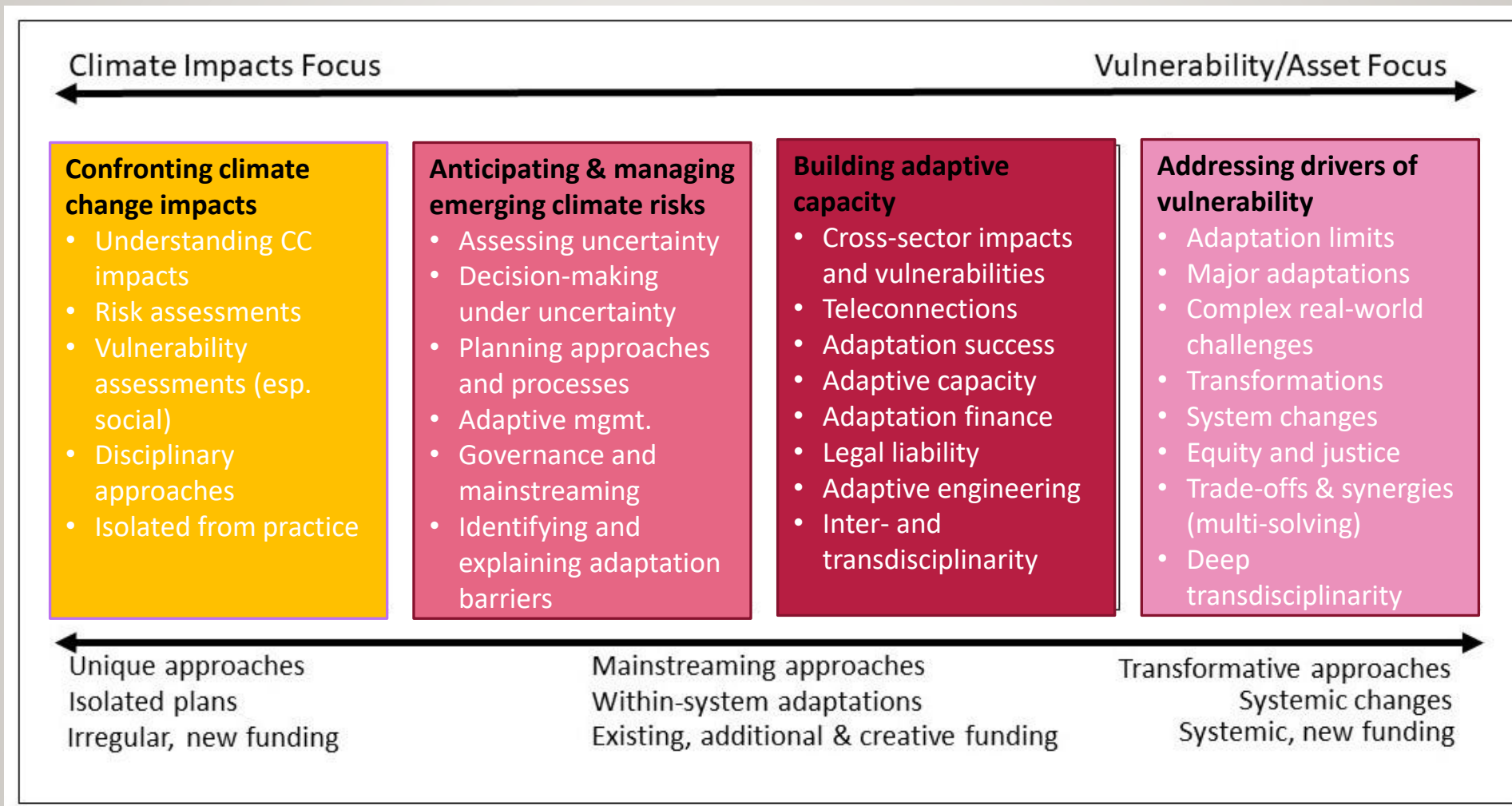
Example dimensions for equitable climate resilience consideration

EQUITABLE CLIMATE RESILIENCE ADDRESSES ROOT CAUSES, SOCIAL FACTORS & BIOLOGICAL FACTORS



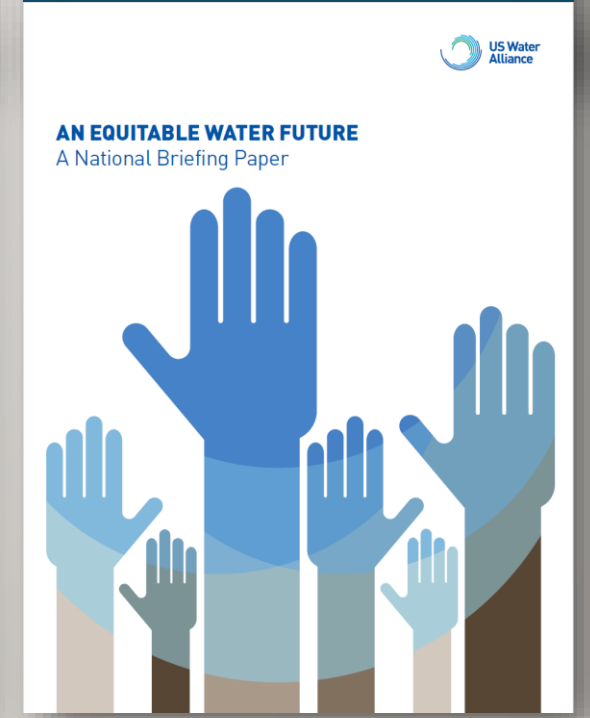
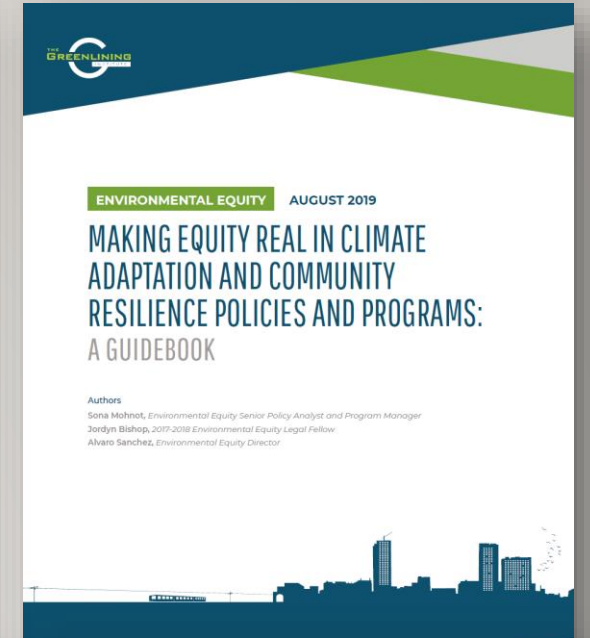
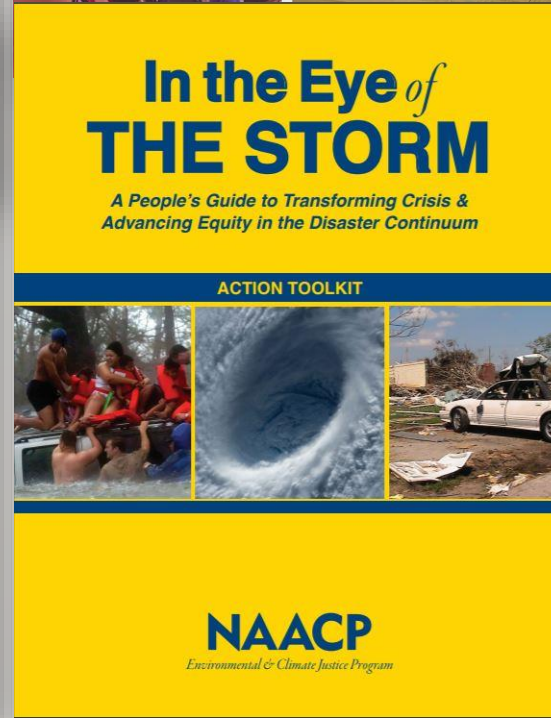
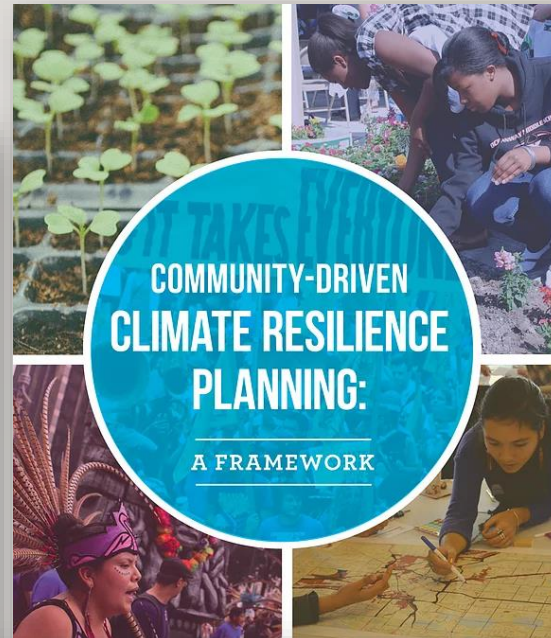
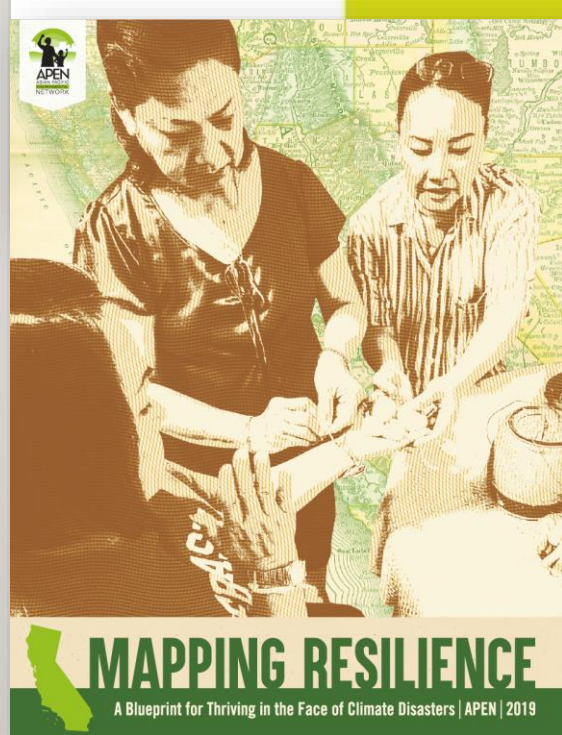
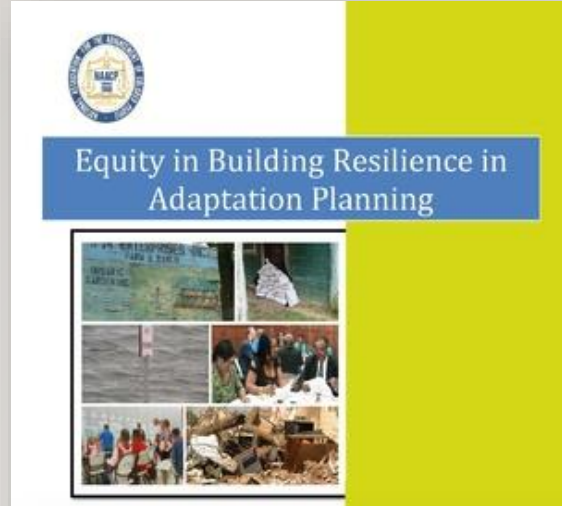
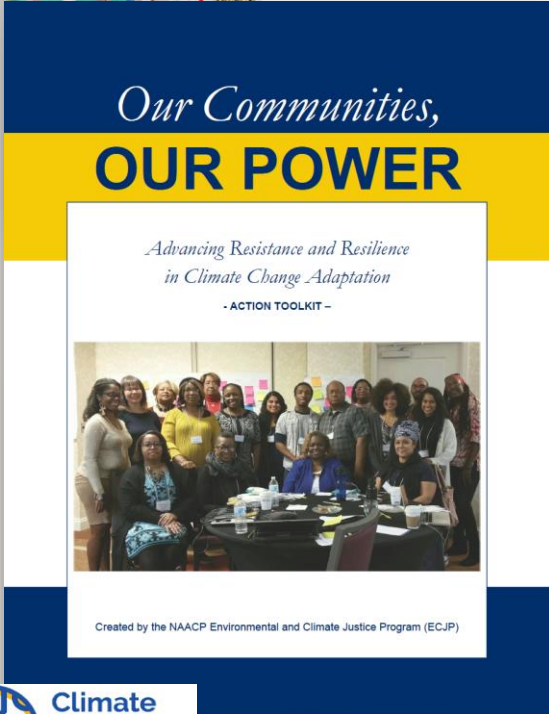
SOURCE: Centering Equity in Climate Resilience Planning and Action: A Practitioner's Guide

EQUITABLE CLIMATE RESILIENCE AIMS FOR TRANSFORMATION (VS. MAINSTREAMING)

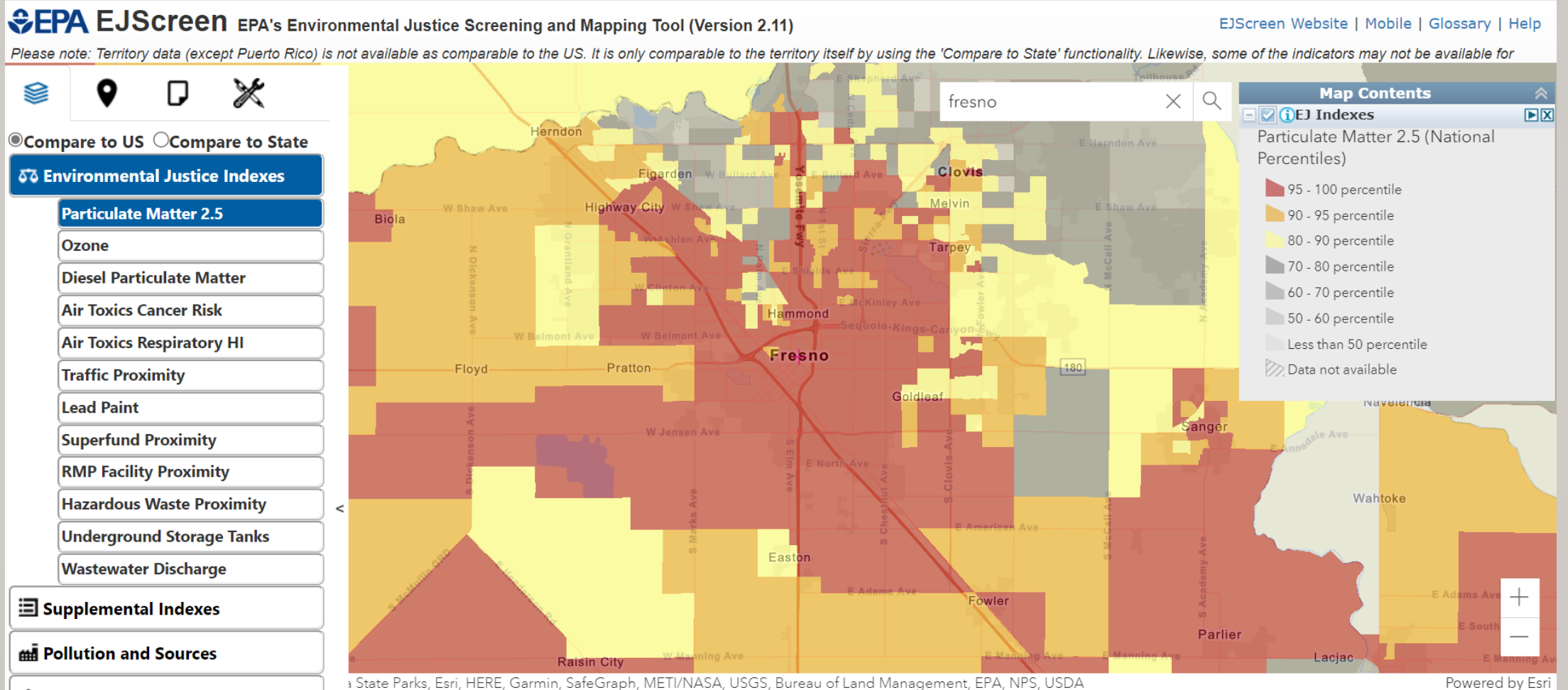


Source: Coffee building on Moser et al. (2017)

SELECT KEY RESOURCES



EPA ENVIRONMENTAL JUSTICE SCREENING TOOL



SOURCE: EJScreen

CALL TO ACTION: LEADING EQUITABLE CLIMATE CHANGE RESILIENCE

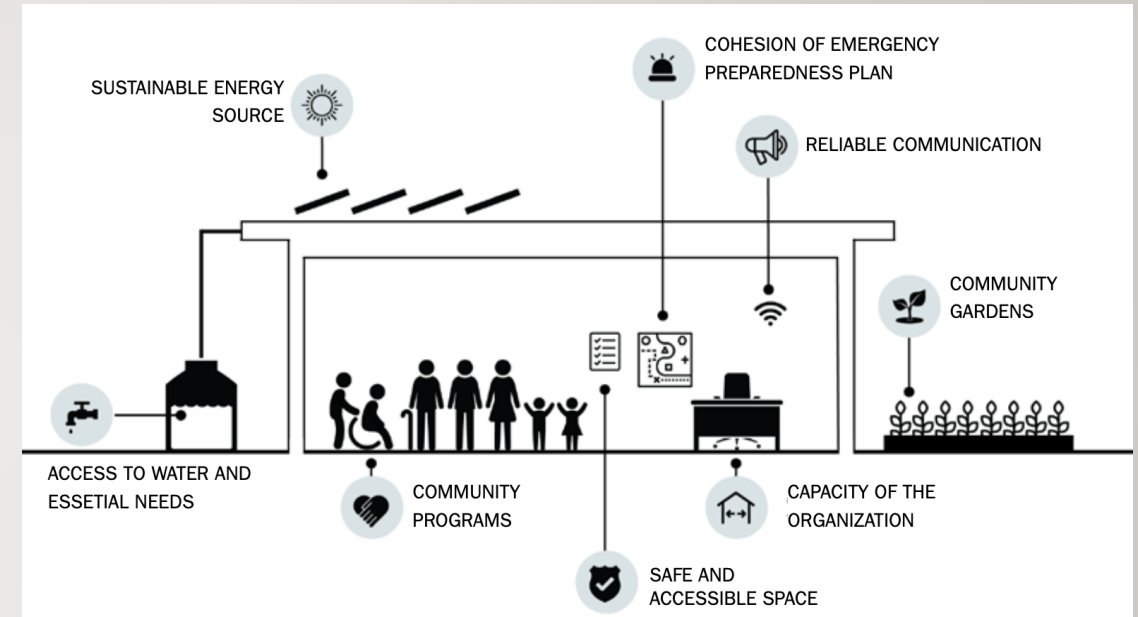
EXAMPLE EQUITABLE CLIMATE RESILIENCE PROJECT: RESILIENCE HUBS

Community-serving facilities designed to support residents during emergencies and everyday.

Provide essential services, promote social cohesion, and help reduce carbon emissions.

Key Resilience Hub Features:

- Operates year-round, not just during crises
- Provides essential services like cooling, heating, and power during outages
- Hosts community events and services, workshops, and training
 - Recreation
 - Childcare
 - Job Training
 - Health & Wellbeing

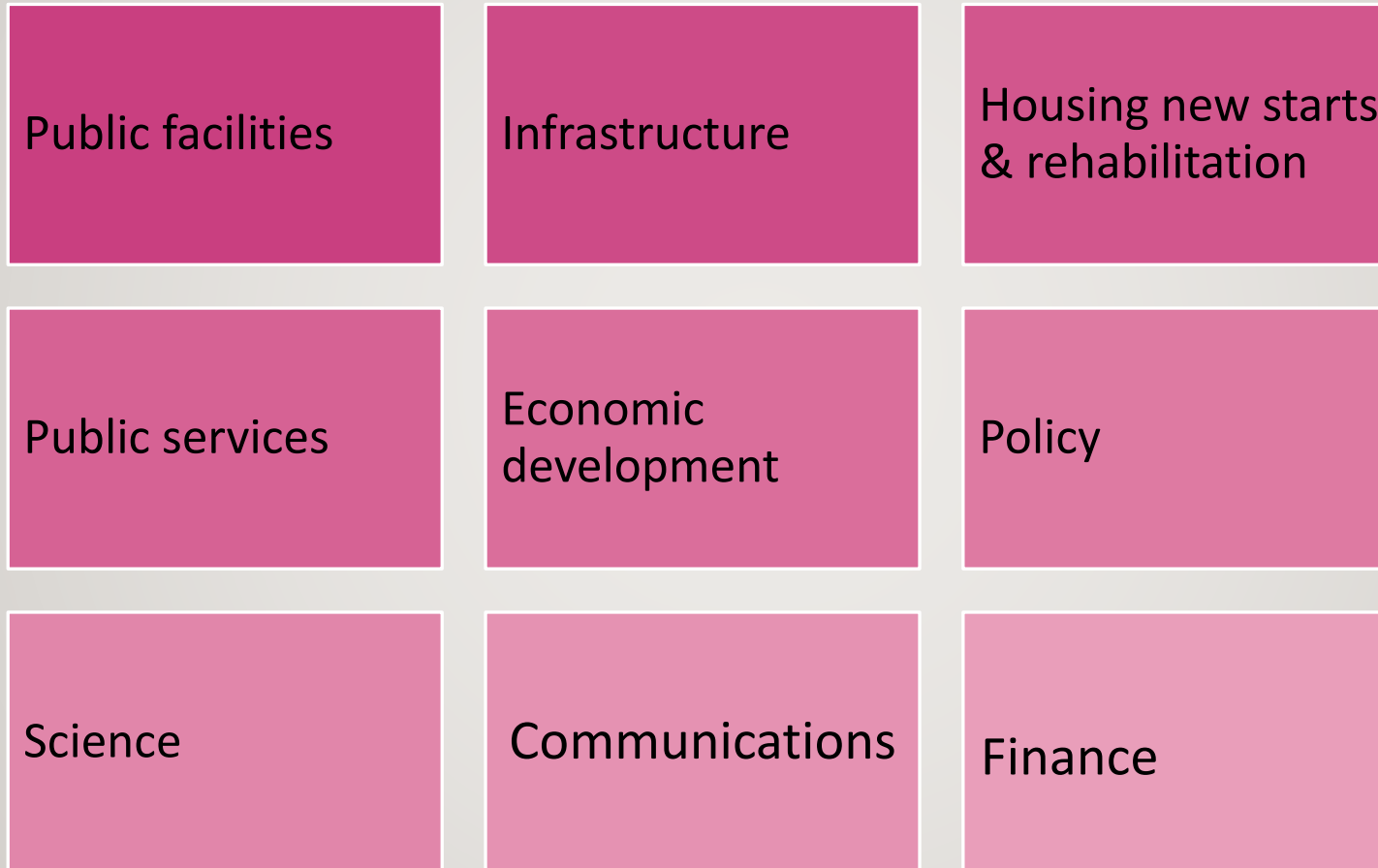


Graphic Source: [Enterprise Community Partners](#)

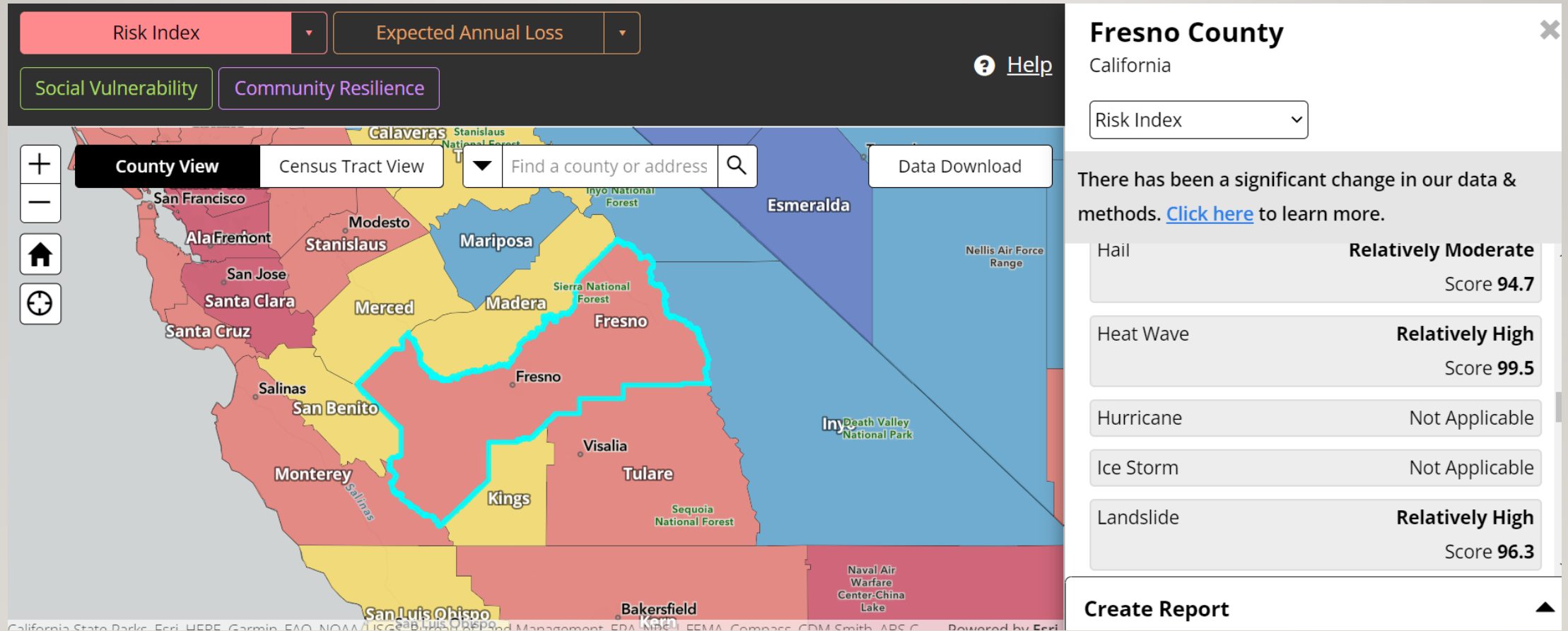
Additional information:

<http://resilience-hub.org/>; [HUD Climate Resilience Implementation Guide](#)

CREATE CLIMATE CHANGE RESILIENCE OPPORTUNITY



ASSESS RISK (FEMA'S NATIONAL RISK INDEX)



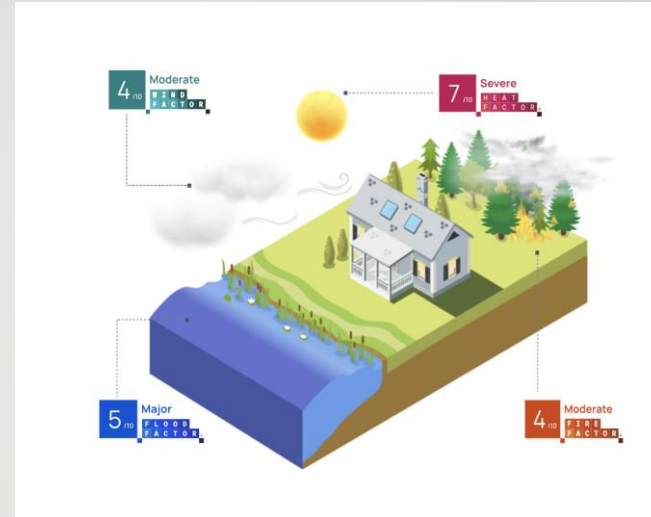
Source: FEMA

CLIMATE CHANGE RISK ASSESSMENT

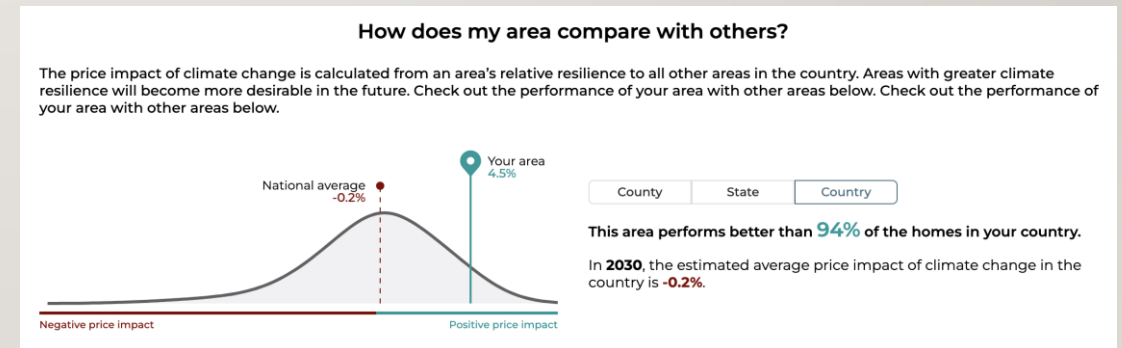
Federal government sources:

- NOAA Digital Coast Partnership
- Climate.gov
- Drought.gov
- Heat.gov

Your home: realtor.com



Source: Risk Factor: <https://riskfactor.com/>



Source: Climate Alpha: <https://climatealpha.ai/>

INCLUDE CLIMATE RESILIENCE IN ROI

- On average, 6:1 return on investment (ROI) for risk mitigation
- 3:1 for wildfire projects (most from the protection of property (i.e., avoiding property losses).
- 5:1 on hurricane and tornado-force winds
- 7:1 from projects that buy out buildings prone to riverine flooding,
- 11:1 for investments in designing new buildings to meet the 2018 building codes

Source: National Institute of Building Sciences (2019)



PLAY WITH CLIMATE RESILIENCE CHOICES

HUD Community Resilience Toolkit

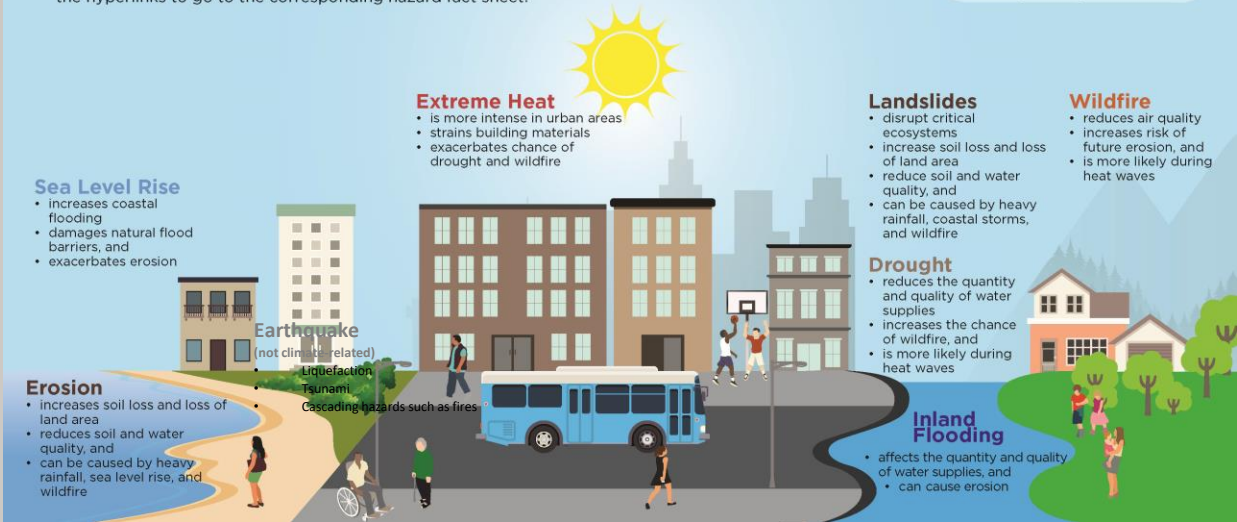
How can natural hazard risks affect your community?

Climate-related natural hazards can impact all communities. To the right is a list of common impacts that might result from any of these hazards. Below, each hazard bullet hazard-specific impacts and interactions between the hazards. To learn more about each hazard and possible impacts to your community, click on the hyperlinks to go to the corresponding hazard fact sheet.

Common Impacts

Many of these hazards can:

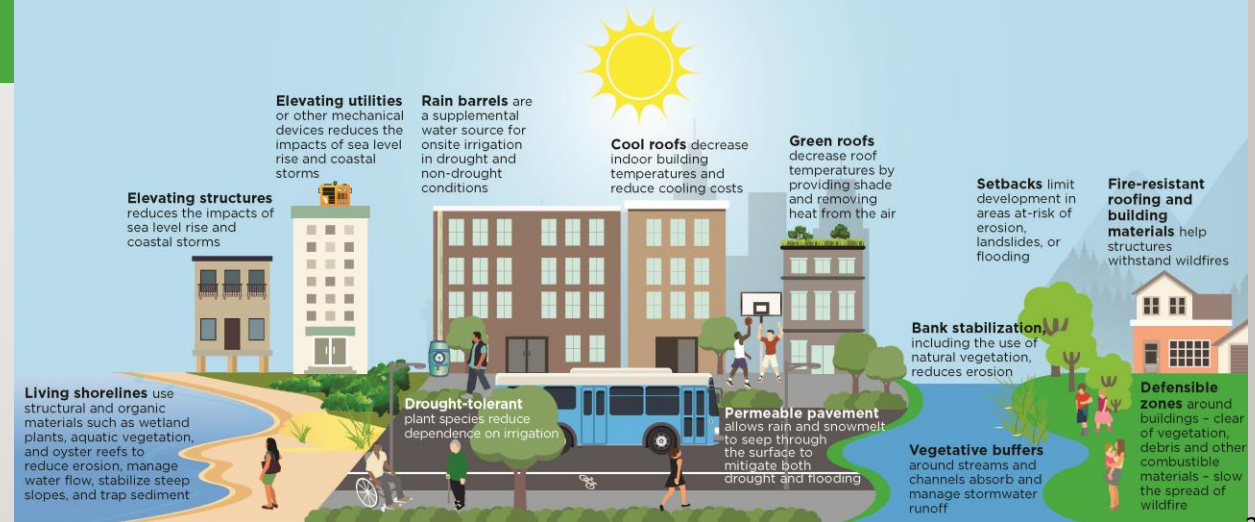
- cause injury, illness, and death
- displace residents
- interrupt public services (e.g., electric power, water supplies), and
- damage buildings and infrastructure



HUD Community Resilience Toolkit

What does a resilient community look like?

These coastal, inland, urban, and rural areas depict examples of actions communities can take to increase their resilience to climate-related natural hazards. Explore the actions to generate ideas on how to increase your community's resilience.



SOURCE: HUD Community Resilience Toolkit
<https://www.hudexchange.info/resource/5981/community-resilience-toolkit/>

WORK ON SYSTEMIC CHANGE: E.G. LAND USE

- Deliver higher-density development in less risky locations
- Implement new development and infrastructure to standards more prepared for climate impacts
- Commit to support for communities in harm's way
- Reduce new development in locations which are exposed to climate impacts
- Maintain an aligned commitment to economic stability
- Further climate mitigation goals

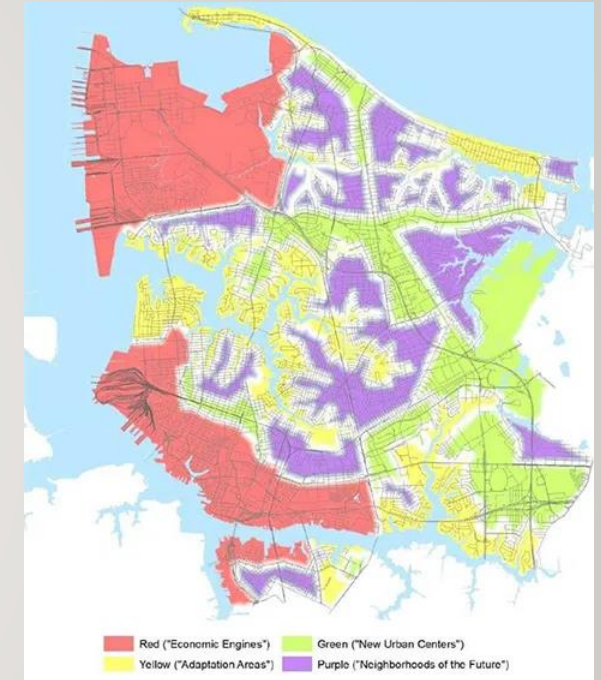


Image source: City of Norfolk

PRIORITIZE CLIMATE RESILIENCE ACTIONS

Illustrative Building-level Solutions Relative to Cost & Effort

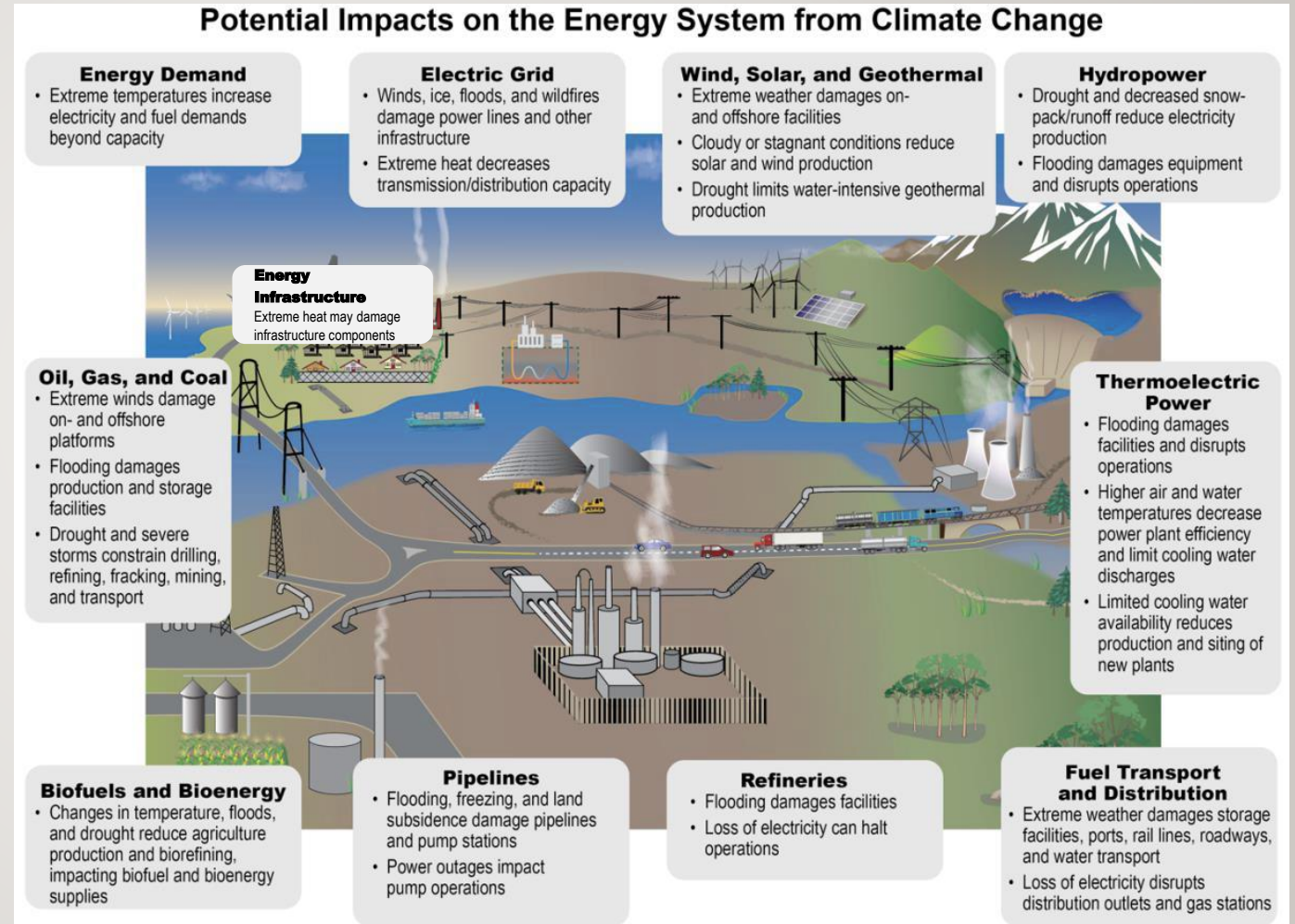


Source: Keep Safe Miami Funding Guide

CONSIDER CLIMATE RESILIENCE IN DECARBONIZATION PROJECTS

Estimating Future Hazards

- Increased energy demand, particularly for cooling
- Increased asset damage from storms
- Decreased hydropower production due to drought
- Decreased efficiency in older systems struggling to keep up



Source: USGCRP, Draft 5th National Climate Assessment

ACTIVATE HOPE



Photo:villageofhopeuganda.com

EQUITABLE CLIMATE RESILIENCE DEPENDS ON....

- Collective visioning of a viable, dignified future
- Collective problem definition and exploration of solutions
- Collective problem fact-finding and exploration
- Shared responsibility for enacting and enacted responses
- Creating solutions to social and environmental inequalities as primary and collateral benefit
- Targeting resources to create resilience benefits in underserved communities



Source: Carlotta R; flickr

THANK YOU!

FOR JOINING US IN

SAVING LIVES AND IMPROVING LIVELIHOODS
IN THE FACE OF CLIMATE CHANGE DISRUPTION

JOYCE@CLIMATERESILIENCECONSULTING.COM