Community Disaster Resilience Zones (CDRZ) and National Risk Indices Resource

Updated: March 2025

Purpose of this document

To create a discussion document about how to use Community Disaster Resilience Zones as a Climate Adaptation Practitioner.

Summary and Overview

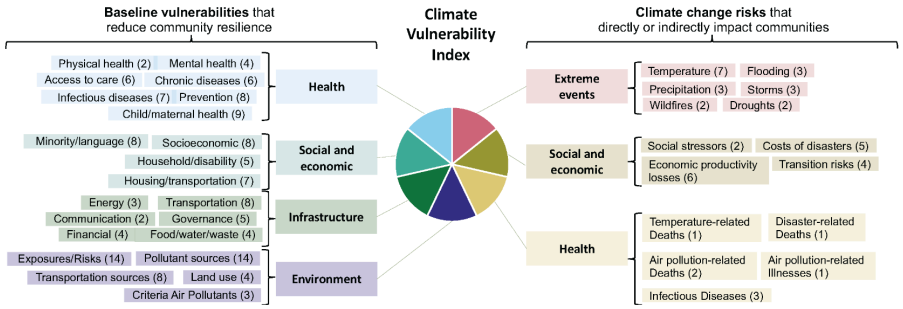
- The Community Disaster Resilience Zones program was announced by FEMA 9 2023. This designation makes it easier for these communities to receive federal dollars for resilience.
    - FEMA Designates First Communities to Receive Targeted Assistance for Hazards Resilience
    - FEMA Community Disaster Resilience Zones
- CDRZ is based on NRI (National Risk Index) and CEJST (Climate & Economic Justice Screening Tool - *no longer available*)
    - Methodology used to create the CDRZ
        - A census tract is designated as a Community Disaster Resilience Zone if its National Risk Index (NRI) score ranks in the top 50 nationally or in the top 1% in its state and it is identified as a disadvantaged community by CEJST.
        - FEMA Community Disaster Resilience Zones
    - NRI
        - https://hazards.fema.gov/nri/map#
        - The tool is **County based**
        - Formula for the Risk Index
            - Expected Annual Loss × Social Vulnerability ÷ Community Resilience = Risk Index
                - Expected Annual Loss is pretty clear and uses a standard definition of risk (probability times the magnitude of loss)
                - This is based on historical probability and loss and linked to NOAA's Storm Event Database. They recognize that this is based on historical losses of infrastructure, so there is a bias toward urban areas and properties that are worth more. To add a dimension for the loss for underserved populations, they have created the Social Vulnerability
    - CEJST
        - The tool highlighted disadvantaged **census tracts** across all 50 states, the District of Columbia, and the U.S. territories. Communities are considered disadvantaged:
            - If they are in census tracts that meet the thresholds for at least one of the tool's categories of burden, or
            - If they are on land within the boundaries of Federally Recognized Tribes
        - Burdened categories include:
            - Low income

        - Climate change impacts
        - Energy cost
        - Health risk
        - Housing challenges
        - Historic pollution
        - Transportation barriers
        - Water and wastewater challenges
        - Workforce challenges
- CDRZ is a “risk index” that combines two other risk indices (NRI and CEJST) and is therefore problematic to apply consistently
    - Two different scales of each indice makes to final index not robust from a GIS science perspective
    - There are lots of datasets being combined, but there is not a weighting factor to try to get all the data to be truly comparable.
- There is significant pushback at the local level and from some nonprofits and NGO’s.
    - ASFPM_Comments_to_Fed_Register_NRI_and_CDRZ_7-25-23_final.pdf
        - “State and local data and knowledge is critical to the success of any hazard mitigation program,” said Chad Berginnis, ASFPM Executive Director. “While the communities identified as CDRZ may benefit from their designation, what about those underserved communities who’ve been once again overlooked? This program, in its current form, is deeply flawed and will result in unintended consequences.”
        - Using NRI to identify areas as “high risk” does not always correlate with state and local experience and data, including hazard mitigation plans, and gaps in the NRI data are well known. Compounding that problem is the fact that the CEJST tool simply does not do a good job at identifying disadvantaged communities. We have observed that with the CEJST Tool, disadvantaged areas in larger census tracts get missed or their needs become diluted in smaller rural communities due to the size of the community relative to the size of the census tract.
        - These types of tools and datasets could play a supporting role in things like program planning and public education, but it is a real problem to use them for such high-stakes initiatives as grant program eligibility, cost share, or funding priority given the obvious deficiencies.
- A Practitioner needs to know how to “mine” the tools and online viewers and communicate the results to a community they are working with in order to provide optimal services.
    - Therefore, CDRZ cannot just be used “as is” but must be put into context for local risk and vulnerability related decisions.

Other tools for examining vulnerability and risk nationally

- The U.S. Climate Vulnerability Index -
    - Environmental Defense Fund, Dark Horse Analytics, Texas A&M and others
    - From their site - The U.S. Climate Vulnerability Index (CVI) visualizes how drivers of cumulative vulnerability disadvantage communities across the United States. Better understanding of the intersections between growing climate risks and pre-existing, long-term health, social, environmental, and economic conditions is critical to effectively

building climate resilience for everyone and deploying targeted adaptation efforts. The CVI provides a robust, data-driven approach to understanding locally relevant determinants at a neighborhood scale. Comprising 184 indicators, this mapping tool integrates cumulative impacts that can shape a community – from quality of housing and access to supermarkets to proximity to toxic waste sites. Equipping policymakers and communities with the data they need to take action, allocate funding, and advocate for changes they want to see in their own



communities can limit the growing dangers from climate change.

- Congress recently made a historic level of funding available to build resilience in vulnerable communities. But the right investments must flow to the right places for these efforts to be effective. The CVI can be instrumental in empowering communities and policymakers to better prioritize resources and target interventions, providing a template for addressing local-scale climate and environmental justice globally.
- Great set of tutorials and use cases - Tutorials & Use Cases - The U.S. Climate Vulnerability Index

- Headwaters Economics
  - Rural Capacity Map