



Comment Letter; 7.25.2023

Comment on Federal Emergency Management Agency Notice: **FEMA-2023-0009**

Implementation of the Community Disaster Resilience Zones Act

To be submitted to Regulations.gov docket

To whom it may concern:

The Coastal Flood Resilience Project appreciates the opportunity to respond to the [notice](#) by the Federal Emergency Management Agency (FEMA) seeking comments on the implementation of the Community Disaster Resilience Zones Act (FEMA-2023-0009).

The [Coastal Flood Resilience Project](#) (CFRP) is a coalition of nonprofit organizations working for stronger national programs to prepare for coastal storm flooding and rising sea levels along the coast of the United States. The CFRP website includes white papers and letters to Congress and federal agencies on a range of topics related to coastal flood resilience and sea level rise.

General Comments

The CFRP recognizes that FEMA is implementing disaster resilience zones in response to the [Community Disaster Resilience Zones Act \(CDRZA\)](#) enacted in late 2022. As explained in the [report](#) on the bill by the Senate Committee on Homeland Security and Governmental Affairs, the goal of the bill is to focus FEMA disaster mitigation investments on “communities that are at the most risk and least likely to recover from natural hazards.” Although the law constrains FEMA’s implementation options, it also provides FEMA with discretion to make implementation choices in several key areas. CFRP encourages FEMA to use its discretion in the following key areas:

- recognize sea level rise as contributing to the risk level of resilience zones;
- account for future conditions in identifying resilience zones;
- elevate benefits to people rather than property in defining resilience zones;
- consider mitigation plan effectiveness in award of pre-disaster mitigation grants; and
- clarify displacement expectations to support relocation strategies.

Taken together, these changes will result in resilience zones that better focus disaster mitigation funding on communities that are “most at risk and least likely to recover from natural disasters” by better recognizing evolving threats and avoiding misdirection of funding to communities based on high property values that play a determinative role in risk characterization. Limited funding will also be invested in more cost-effective response strategies.

1. Recognize Sea Level Rise as Contributing to the Risk Level of Resilience Zones

The CDRZA amended the Stafford Relief and Emergency Assistance Act (Stafford Act; 42 U.S.C. 5121(b)) by adding an important new finding stating that one of the intents of the Act is to alleviate the suffering and damage resulting from disasters by “identifying and improving the *climate* [emphasis added] and natural hazard resilience of vulnerable communities.” This new finding clarifies the need to address risks associated with climate change as well as those commonly associated with “natural hazards”.

The FEMA notice explains that the existing National Risk Index will be adapted to identify resilience zones. The [Technical Documentation](#) for the National Risk Index describes the process of selecting 18 hazards that form the basis for the Index, and not selecting other hazards (i.e., an arbitrary threshold of the number of “mentions” in 2016 state hazard plans) (see page 2-3). Hazards related to “coastal flooding” and “hurricanes” are included among the 18 hazards, but sea level rise is not. Taken together, however, the coastal flooding or hurricane hazards do not capture the significant risks that sea level rise poses to communities.

The hazard of [“coastal flooding”](#) is associated with high tides that result in temporary flooding. But sea level rise also raises ocean levels permanently (i.e., at all tide stages). The permanent inundation resulting from sea level rise thus increases damages and related costs beyond those caused by just a high tide (e.g., a building might be elevated to avoid a higher high tide but would need to be relocated to avoid permanent inundation by rising sea level).

[“Hurricane”](#) risk is included among the 18 hazards, even though it did not meet the state plan mention threshold, on the grounds that it is a “regionally significant hazard”. Hurricane damages associated with storm surge from these events are limited to the time and place that a hurricane strikes. And, the flooding resulting from a storm surge is temporary. Sea level rise occurs along the entire coast and brings permanent inundation. Sea level rise damages are thus not well accounted for in the context of the “hurricane” hazard.

Past increases in sea level rise along the U.S. coast are [well documented](#). These slow but [accelerating](#) increases in sea level clearly constitute a “natural hazard” that is the result of a changing climate newly recognized as a concern in the Stafford Act. The fourth [National Climate Assessment](#) highlighted the huge damage and cost implications of rising sea level when it reported that “Although storms, floods, and erosion have always been hazards, in combination with rising sea levels they now threaten approximately \$1 trillion in national wealth held in coastal real estate.”

There are several other issues related to the exclusion of sea level rise as a hazard. Although land subsidence, which is a significant contributor to sea level rise, exceeded the hazard selection threshold it was excluded due to lack of data, even though such data are available for the coast in the NOAA sea level rise scenario [report](#). In addition, this selection process does not include the concept of future conditions (see comment #2 below) and sea level rise would be more likely to meet the hazard threshold if future conditions were considered, as FEMA indicates in its notice it plans to do (see comments #2 below).

Failure to recognize sea level rise risks, in addition to coastal flooding and hurricane risks, will greatly underestimate the cumulative risks faced by coastal communities and lead to significant underinvestment in disaster mitigation in these communities. The CDRZA provides authority for FEMA to consider “any other elements determined by the President” (see CDRZA section 206 (d)(2)(a)(iii)) as part of making risk ratings and this authority should be applied to add sea level rise as a hazard informing selection of resilience zones. **FEMA should either amend the “coastal flooding” hazard to account for both temporary coastal flooding associated with high water at the time of a high tide and the permanent inundation associated with rising sea levels or add sea level rise as an additional “natural hazard”.**

2. Account for Future Conditions in Identifying Resilience Zones

As FEMA states in the notice requesting comments on selection of resilience zones, the National Risk Index “must be updated to...anticipate future conditions.” As the National Risk Index will inform allocations of federal grants for pre-disaster mitigation, it is important that the identification of the places most at risk to disasters (i.e., “resilience zones”) account for risks and conditions that will emerge in the future. Without considering future conditions, federal investments in mitigation may be directed more to places that had the greatest risk in the past and less to places that face the greatest risks at the time that funds are allocated in the future and for projects that are designed to address the risks expected during their design life.

A key aspect of addressing future conditions is to identify future changes in the hazards that are evaluated to define risk. For example, the “coastal flooding” hazard should not just account for cumulative, current sea level rise risks and its impacts (see comment #1) but should also account for increases in these risks based on models. In the case of sea level rise, U.S. Sea Level Rise and Coastal Flood Hazard Scenarios and Tools Interagency Task Force’s sea level rise scenarios [report](#) provides localized estimates of future sea level rise along the U.S. coast for multiple time periods. As noted in comment #1, coastal communities face flood and sea level rise damages on the order of a trillion dollars by 2100.

In the case of the “hurricanes” hazard, a key finding of the fourth [National Climate Assessment](#) is that “In the future, Atlantic and eastern North Pacific hurricane rainfall and intensity are projected to increase, as are the frequency and severity of landfalling “atmospheric rivers” on the West Coast.” Between 1980 and 2021 coastal hurricanes were the cause of half of the total damages from [billion-dollar disasters](#) and the highest number of deaths compared to other hazards. A failure to account for the projected increases in hurricane intensity in assessing the relative risk to a “resilience zone” rather than just historical damages would result in diversion of federal per-disaster mitigation investments to other areas facing less challenging risks in the years ahead.

In addition to addressing future changes in hazards, the revised National Risk Index should account for changes in demographics that will influence future damage costs and loss of life. For example, between 1960 and 2008 [US population growth was 84.3% for coastal areas](#) and 64.3% for non-coastal areas. More importantly, the population in the low elevation coastal zone (LECZ) is [estimated](#) to almost double between 2000 and 2060. A growing coastal population will also drive demand for new housing and supporting infrastructure in places where it will be at risk of costly damage.

Finally, because federal investments in pre-disaster mitigation often involve long-term projects, including development of plans to relocate communities and infrastructure to higher ground, it is important that the timeframe applied to assessment of future conditions also be long-term. Many projections of future conditions include assessments to the year 2100 and FEMA should include assessments of future conditions to at least that date.

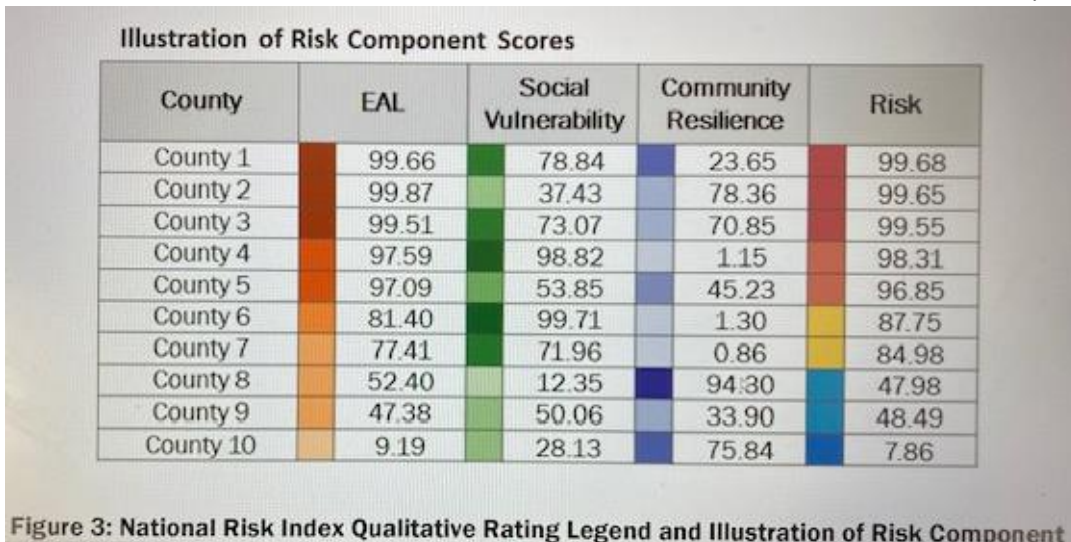
In summary, FEMA should adapt the National Risk Index to recognize future conditions, including changes in hazards (such as sea level rise, coastal flooding, and hurricanes) as well as changes in demographics and resulting future damages and loss of life. FEMA should also define “future” in a way that meaningfully recognizes emergence of significant risks over the long-term.

3. Elevate Benefits to People Rather than Property in Defining Resilience Zones

The relative risk score developed for a resilience zone is important because it will both increase the federal share of a disaster mitigation grant and influence the likelihood of a mitigation project being selected for funding among other competing proposals.

FEMA has discretion in both the design of the risk ratings and how the rating is used to select proposed projects for funding. CDRZA proposed section 206(d)(2)(a)(iii) allows FEMA to consider “any other elements determined by the President” in developing risk rating procedures.

The National Risk Index [Technical Documentation](#) report (page 3-5; Figure 3) illustrates how hazard risk scores are combined with data on “Social Vulnerability” and “Community Resilience” to determine an overall community risk score. A higher “Social Vulnerability” score results in a higher risk score and a higher “Community Resilience” score results in a lower risk score. The report, however, suggests that the “Expected Annual Loss” (i.e., hazard risk or EAL) part of the equation plays a determinative role in the final rating and that the “Social Vulnerability” and “Community Resilience” elements of the equation only serve to slightly modify an “Expected Annual Loss” rating (i.e., the Risk scores in the final column are close to the EAL scores in the second column).



The calculation of Expected Annual Loss is based on losses of people (i.e., monetized deaths and injury), buildings, and agricultural crops adjusted by risk exposure. The [Technical Documentation](#) report (page 4-8; Table 4) illustrates that the value of buildings is likely to be by far the biggest factor in establishing an “Expected Annual Loss” because the dollar value of hazards related death and injury (calculated at \$11.6 million per lost life/per 10 injuries; see page 4-6) is often overwhelmed by the much higher value of potential building losses).

Table 4: Example of a County-Level EAL Calculation for Hail

<i>EAL Factor</i>	<i>Building Value</i>	<i>Population & Population Equivalence</i>	<i>Agriculture Value</i>
Exposure	\$28.21 B	310,235 people or \$3.6 T	\$77.03 M
Annualized Frequency	3.9 events/year	3.9 events/year	3.9 events/year
HLR	3.1e-5	1.3e-8	3.2e-6
EAL	\$3.47 M	0.016 people or \$185,600	\$968

The net effect of these calculations is to generate overall risk scores that principally reflect the value of buildings. In some places, building value may reflect high value infrastructure critical to the community (e.g., a hospital or power station). In most places, however, value of buildings will be based on residential properties. Places with dense, high value residential properties are likely to have higher “Expected Annual Loss” scores and thus higher overall risk ratings.

By giving building value a central role in determining risk ratings and identification of resilience zones, this process is likely to focus federal disaster mitigation investments on places with high building values and wealthy populations. In the case of coastal communities facing storm surges and rising seas, many high value properties are second homes or rentals rather than homes of full-time community residents. Disadvantaged communities with higher proportions of low-income and minority populations are likely to have lower building values, thus lower “Expected Annual Losses,” and thus lower risk ratings, despite consideration of “Social Vulnerability”.

FEMA has the authority to adjust or add to the core risk factors and should use that authority to give greater weight in risk score calculation to impacts on people, rather than property. Accounting for impacts to individual people rather than property would reduce the degree to which risk ratings, and federal disaster mitigation investments, fall to wealthy portions of society that have the greatest capacity to recover from disasters. Places with higher populations of people with limited resources whose homes have lower values, are often uninsured, and are [most likely to suffer long-term impacts of a disaster](#) would be less likely to receive assistance because their annual economic losses would be too low.

Some options to accomplish the goal of giving greater weight to people rather than property are:

- significantly increase the dollar value of lost life or injury;
- limit valuation of residential property to full-time, primary residences;

- set a cap on the value of individual residential properties (e.g., \$1 million) to avoid a few very high value properties inflating the Estimated Annual Value;
- adjust the Estimated Annual Value by an income factor for the risk zone (i.e., increase Estimated Annual Value in low-income communities on the grounds that the real-life impact of property losses is relatively greater for lower income people than for wealthy people who have larger and more diverse financial assets);
- revise the hazard risk score formula to increase the weight given to “Social Vulnerability”; and
- discount the risk scores in the award of federal grant funds, using FEMA’s grant award discretion to fund projects with very high social vulnerability scores (i.e., give less weight to a risk score based largely on Estimated Annual Loss/building value).

A final consideration is that communities or people in places identified as risk zones will anticipate federal financial assistance and may remain fixed in unsafe places for long periods waiting for FEMA assistance even though annual federal funding levels may be sufficient to support only a small fraction of identified needs. The CDRZA provides for identification of roughly 900 census tract level risk zones. These stranded communities or homeowners might take early, independent action to avoid both physical and financial risk with an understanding of the likelihood of risk zone identification translating to federal funding. **To address this problem, FEMA should provide guidance to communities concerning wait times for funding under various assumptions for appropriations and resilience actions that do not require federal funding (e.g., avoiding new development in risky areas).**

4. Consider Mitigation Plan Effectiveness in Award of Pre-Disaster Mitigation Grants

The CDRZA provides that resilience zones designated using the National Risk Index are eligible for pre-disaster mitigation grants under the [Building Resilient Infrastructure and Communities \(BRIC\)](#) program of 90 percent, rather than 75 percent, federal funding.

The CDRZA provides that FEMA is to “certify” a proposal for a disaster mitigation project if it is from a “resilience zone” and it meets three conditions:

- “(i) meets or exceeds hazard-resistant, consensus-based codes, specifications, and standards;
- (ii) is designed to reduce injuries, loss of life, and damage and destruction of property, such as damage to critical services and facilities; and

(iii) substantially reduces the risk of, or increases resilience to, future damage, hardship, loss, or suffering.”

A problem with these criteria is that they are a low bar and are likely to result in most proposed projects being certified. So, FEMA is likely to receive applications requesting far more funds than are available. In 2022, for example, FEMA had about \$2 billion in BRIC funds and received applications for \$4.6 billion. The [report](#) on the CDRZA by the Senate Committee on Homeland Security and Government Affairs states that a key goal of the CDRZA is “to better target FEMA resources to locations with high vulnerability to natural hazards.” If most proposed projects are certified, the certification is of limited use in selection of projects to fund.

In addition, the statutory criteria do not require that a proposed project specifically address the risks that caused it to be identified as a resilience zone under a modified National Resilience Index (i.e., FEMA could certify projects that do not address the risks that resulted in the community’s risk score).

Even if the project addresses the most critical risks, the statutory criteria allow FEMA to certify projects that are not likely to be effective in responding to the risk. For example, a coastal community might apply for a grant to build a small seawall to reduce coastal flooding and rising sea levels without identifying pros and cons of such an interim measure or identifying possible negative impacts (e.g., harm to shorelines of neighboring communities).

Finally, it is likely that resilience zones (i.e., at the census tract or county level) will be adjacent to several other resilience zones. In the case of a cluster of resilience zones, it would be inefficient to offer federal funding for disaster mitigation measures that were uncoordinated geographically or duplicative. Applications from adjoining resilience zones also might be more effective if submitted on the same timeframe, rather than years apart.

Fortunately, the CDRZA provides that FEMA may ask that applicants provide additional information beyond that needed for certification (see section 206(i)(1)). **Using this authority, FEMA should develop project application guidance that would provide additional information to help FEMA focus limited funds on the most effective projects from among many that are certified.** FEMA guidance should ask applicants to:

- describe how the proposed project will address the specific hazards that are identified by the National Risk Index as most significantly contributing to the disaster risk the applicant faces;

- explain why the proposed project is the most effective strategy for addressing the identified risks; and
- consider submitting proposals that are coordinated on a geographic basis.

5. Clarify Displacement Expectations to Support Relocation Strategies

Relocation of buildings, infrastructure, and homes is a key strategy for the effective reduction of risk from climate change and related natural hazards. Relocation is especially useful as a strategy to mitigate risks related to the permanent inundation resulting from rising sea levels. Relocation strategies are eligible for funding under the BRIC program and commonly involve acquisition or buyout of a commercial or residential property or infrastructure asset.

The CDRZA (see proposed section 206(i)(3)) provides that any disaster mitigation project that “involves the displacement of a resident from any occupied housing unit,” is required to “provide, at the option of the resident, a suitable and habitable housing unit” that is comparable to “the housing unit from which the resident is displaced”.

This provision might be read to require a grant recipient considering a relocation strategy plan to pay the owner of a home the costs of buying the property at risk at fair market value and then also pay the costs of providing a new, comparable home. This interpretation of the law would make home acquisition using BRIC funds very expensive, more than offsetting the value of the federal grant cost share increase from 75 to 90 percent, and greatly discouraging the use of BRIC funds for relocating at risk structures.

The CDRZA, however, also includes a requirement that any alternative housing unit “be offered under similar costs, conditions, and terms” to an existing property and that a transaction be voluntary. This provision might be read to require that homeowners be made no worse off as a result of a project involving displacement and relocation. **FEMA should clarify in guidance that a project grant recipient is required to support homeowners that chose to relocate and to hold them harmless financially but is not required to pay to acquire a property and then also pay to provide another comparable home at the safe location with the same grant project funds (i.e., no double dipping).**

The *Coastal Flood Resilience Project* is a coalition of organizations working for stronger programs to prepare for coastal storm flooding and rising sea level in the United States. The views expressed in this comment are those of the supporters listed below and do not represent the views or endorsements of their organizations.

Supporters of these comments include:

- Jay Austin; Environmental Law Institute
- Stephen Eisenman; Anthropocene Alliance
- John Englander; Rising Seas Institute
- Harriet Festing; Anthropocene Alliance
- Alice Hill; former Senior Director for Resilience Policy, National Security Council
- Rich Innes; Senior Policy Director, Association of National Estuary Programs
- Fernando E. Pabón Rico AIA, CAAPPR; Caribbean Center for Rising Seas, a program of the Puerto Rico Science, Technology, and Research Trust
- Jeffrey Peterson; author of *A New Coast: Strategies for Responding to Devastating Storms and Rising Seas* and former Deputy Associate Director for Water Policy, White House Council on Environmental Quality and
- E. Barrett Ristroph; Anthropocene Alliance
- Susan Ruffo; United Nations Foundation and former Associate Director for Climate Preparedness and Resilience, White House Council on Environmental Quality
- Mark Rupp; Georgetown Climate Center
- Jason Scorse; Middlebury Center for the Blue Economy
- Stefanie Sekich-Quinn; Surfrider Foundation
- Mary Carson Stiff; Wetlands Watch
- Shana Udvardy; Union of Concerned Scientists