

Written Testimony  
of  
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Before the  
House Select Committee on the Climate Crisis

Hearing on:  
**“Creating a Climate Resilient America: Reducing Risks and Costs”**

November 20, 2019

Chair Castor, Ranking Member Graves, and Members of the Select Committee, thank you for inviting me to testify today about climate resiliency, and what steps need to be taken to reduce the risks and costs of making our communities more resilient.

As many of you know, I do not mince words when it comes to this topic: The climate has changed and we are seeing more climate driven extreme weather events. It is not something that is 30 years down the road. As a result, we need to start talking about adaptation. Time has run out for debate, action is required.

The stark financial reality today is that the federal government spends billions of dollars annually to deal with the effects of climate change and extreme weather while not spending nearly enough to combat future risk. It is critical that we build in funds for resilience on the front-end of these federal investments. There is a huge cost-benefit to the taxpayer, and the outcome is that disaster relief spending should ultimately be reduced in the out years because it costs significantly less to fund recovery for resilient construction following a disaster.

***Disaster cost are growing at an unsustainable rate.***

From the GAO High Risk Report for 2019, Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks. “Since 2005, federal funding for disaster assistance is approaching half a trillion dollars (about \$430 billion), most recently for catastrophic hurricanes, flooding, wildfires, and other losses in 2017 and 2018.”

***Climate Change impacts are occurring and getting worse.***

Some Highlights from the Findings of the U.S. Global Change Research Program Climate Science Special Report 2017

- **Heavy precipitation events in most parts of the United States have increased in both intensity and frequency** since 1901 (high confidence). There are important regional differences in trends, with the largest increases occurring in the northeastern United States (high confidence).

- **Extreme temperatures** in the contiguous United States are projected to increase even more than average temperatures (very high confidence).
- **The incidence of large forest fires in the western United States and Alaska has increased since the early 1980s** (high confidence) and is projected to further increase in those regions as the climate warms, with profound changes to certain ecosystems (medium confidence).
- Global mean sea level (GMSL) has risen by about 7–8 inches (about 16–21 cm) since 1900, with about 3 of those inches (about 7 cm) occurring since 1993 (very high confidence).
- As sea levels have risen, the number of tidal floods each year that cause minor impacts (also called “nuisance floods”) have increased 5- to 10-fold since the 1960s in several U.S. coastal cities (very high confidence). **Rates of increase are accelerating in over 25 Atlantic and Gulf Coast cities** (very high confidence). Tidal flooding will continue increasing in depth, frequency, and extent this century (very high confidence)

***The past is not preparing us for the future.***

As much as we need to learn from past disasters, the topline lesson that needs to be understood is that ***we must build, and rebuild after a disaster, for our future risk.*** In these scenarios, the past isn’t the best indicator of what these risks have been. Many of you all have seen this, unfortunately, in your home districts: we build something back, and it ends up getting destroyed again. We ought to do it differently, and we need to do it better.

**Recommendations:**

***Build better climate impact models and analysis tools for States and Local Governments***

I have often said that I am not going to debate the merits of climate change. And I saw the effects of it through disaster responses I oversaw at FEMA. It is critical that the risks and effects of climate change are identified and understood so that we can take immediate action.

To that end, the Committee should think about how to accelerate more scientific data and recommendations from a broad cross section of technical and scientific experts, and to consider the need for additional resources to support and improve platforms and models that can forecast and/or characterize sea level rise, flooding probabilities, wildfire risk, drought impacts, and other vulnerabilities associated with extreme weather and changing precipitation patterns.

***The Nation lacks uniformed tools to measure resilience***

As a first step in creating a resiliency standard, develop tools to measure a community’s resilience of its Tax Base to natural hazards.

When local officials try to measure resilience, they often talk about critical infrastructure (Power, Water, Communications, etc.). I think a better measure is the resiliency of their tax base to natural hazard risks. From Hurricane Andrew (and the closing of Homestead USAF Base), Hurricane Katrina and the Gulf Coast, Hurricane Michael and the Florida Panhandle, The Camp Fire in California (Paradise), all have seen reductions in their tax base making recovery difficult or delayed. Loss of housing, jobs, and businesses compound the impacts of the disaster and can mean a failure or long delay to recovery

### *How and where will we build matters.*

Building codes and land use planning are key steps in building resilient communities. Florida has seen the effects of its building codes reducing storm damage. California's 2008 updates to its building codes for wildfire mitigation contributed to homes surviving wildfires in 2017 and 2018. Organizations such as the Institute of Building and Home Safety's Fortified Home program show how building over minimum code requirements can save homes from multiple hazards <https://disastersafety.org>. Congress should continue to support research in developing model building codes that address climate risk.

### *Preparing for Extreme Flood Risk*

Since leaving FEMA, I have been working with the Pew Charitable Trusts' Flood-Prepared Communities initiative on these very issues. Our work aims to decrease the impact of flood-related disasters through cost reduction policies.

I use this as an example of how we need to shift our thinking, investments, and actions as **flooding is our nation's most costly natural disaster and affects all 50 states** – in areas both inland and coastal. It is something that is impacting constituents in each of your districts and home states. According to the National Oceanic and Atmospheric Administration, flood and coastal storm events have caused, since 2000, nearly \$850 billion in overall losses when accounting for impacts such as business interruptions, physical damage to buildings, agricultural losses, and damage to public infrastructure.<sup>1</sup>

Resilience and adaptation are essential to lowering the costs to taxpayers and the risks to our communities. Congress is extraordinarily generous in funding disasters each year to ensure that our communities can recover. However, the challenge in this is the inherent bias towards post – disaster assistance over adaptation and pre – disaster mitigation.

It is essential that the federal government alter the long-existing bias that favors post-disaster assistance over federal support for adaptation and pre-disaster mitigation. Investing in resilience

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<sup>1</sup> National Oceanic and Atmospheric Administration, *Billion-Dollar Weather and Climate Disasters: Summary Stats*, National Centers for Environmental Information, (accessed October 1, 2019) available at <https://www.ncdc.noaa.gov/billions/summary-stats> (considering tropical cyclone to be flood-related disasters).

is not only good policy that leads to better protection for people and infrastructure, it is a *better* investment in terms of actual dollars. **According to one study by the National Institute of Building Sciences, investing in mitigation saves society \$6 for each \$1 invested.**<sup>2</sup>

Congress needs to look at not only the amount of funding for mitigation, but also the types of funding vehicles available. The mitigation needs in one part of the country are different from another, but the underlying commonality is that both the amount of funding and the type of funding is lacking across the board.

We all understand the difficulty in assessing the costs associated with investing in mitigation. This Committee, in particular, and Congress in general, should consider how we are currently looking at mitigation and adaptation costs. Currently, nearly 90 percent of funding for flood risk reduction comes in the aftermath of a big flood. (This is true for most disasters, with the passage of the Disaster Recovery Reform Act of 2018 (DRRA) Federal Fire Management Assistance Grants now included post event mitigation dollars). Obviously, that it is a good thing to rebuild the right way, but we also have to prepare *before* disasters because those investments will be more effective and well-thought out. I would encourage you all to look at how the current analytical approaches may not fully account for the benefits of adaptation and pre-disaster mitigation

The built environment is, of course, critical to our lives and well-being. However, we must also look at how non-structural solutions can also support adaptation and mitigation efforts in our country. Various nature-based solutions, such as wetlands and parks, can provide self-sustaining flood defenses that support ecosystem restoration while providing recreational space for communities. These have been proven to be across the board ‘wins’.

One way the federal government has helped communities create or restore natural open space within floodplains is through FEMA’s Pre-Disaster Mitigation (PDM) Program. Through the PDM Program, FEMA has invested in the acquisition of disaster prone or damaged properties with the goal of moving people out of harm’s way while creating permanent open space in the process. In theory, this program is a good tool that states, and communities can use to prepare beforehand, but it just doesn’t get the funding to make enough of a difference. This needs to change, and I hope that as the Select Committee considers its recommendations, that it encourages increased funding for this at FEMA, as well as support other federal agencies in their evaluation and use of non – structural infrastructure wherever feasible.

A second way for Congress to support resilience is pass the State Flood Mitigation Revolving Loan Fund Act of 2019 (H.R. 1610)

### ***Update Flood Risk Maps and Communication of Flood Risk***

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<sup>2</sup> <https://www.nibs.org/page/mitigationsaves>

I recommend that Congress provide funding to update flood maps to portray **all the areas at risk of flooding**. For example, many of the homes that flooded in Hurricane Harvey were outside zones where flood insurance was required, which understandably caught homeowners by surprise. The worst thing we can do is create a false sense of security for homeowners and communities. Under the current structure, that's exactly what is happening.

Terms such as a 100-year flood and flood insurance rate maps have led too many to underestimate their flood risk. How to communicate flood risk in terms that home owners will understand can lead to more purchasing flood insurance outside of the Special Flood Risk Areas.

Congress should also require that to participate in the NFIP, the National Flood Insurance Program, **states adopt flood hazard disclosure requirements for home sales** that provide home buyers a right to know about flood history and risk before going to closure. Currently 29 states have some form of flood risk/history disclosure, 21 states have no requirements.

A key step for homeowners to be resilient is the purchase of flood insurance, either from the NFIP, or from private flood insurers. This action can be taken now by the public, as a first step in developing financial resilience in the face of more extreme flood events.

***The Federal Government should not be the first financial responder to frequent disasters.***

I would also encourage the Committee to look at how the Federal government response can act as a disincentive for state and local leadership on mitigation and adaptation. The federal government has multiple authorities for providing disaster response and recovery with programs housed in various agencies across the government. For example, direct grants to repair and rebuild public facilities, loans to businesses, families, and local governments, unemployment assistance, special tax treatment of losses, and financial aid to affected individuals all support our communities. A significant portion of this assistance flows through the Disaster Relief Fund (DRF) to function as a complement to state and local resources when disasters overwhelm local and state capacities.

This is critical support that should not be discounted in any way. However, the downside is the increasing number of disaster declaration requests and growing reliance on the federal government. We see this as problematic, not only in terms of federal spending, but also in creating a strong disincentive for local and state leadership on adaptation.<sup>3</sup> ***I would encourage the Committee look at the proposals for a “disaster deductible” that FEMA released in 2016 and 2017.***

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<sup>3</sup> A 2015 review of state budgeting for disaster concludes that natural disasters and emergencies have not had a significant effect on state finances, “...because states relied on the federal government to provide most of the funding for recovery.” <https://www.gao.gov/assets/670/669277.pdf>

### ***Stop Growing the Risk***

Strengthen requirements for local and state governments, as well as eligible non-profits, to insure their risk. Too many claim to be self-insured, but have instead transferred their risk to the federal taxpayer when disaster strikes. When the President declares a Federal Disaster under the Stafford Act. No less than 75% of their eligible uninsured losses are required to be covered. This has been an unintended consequence of the Stafford Act, growing the uninsured risk of state and local governments.

One final point I would like to make is about NFIP, the National Flood Insurance Program. As you know, I oversaw this program when I served as FEMA's administrator, and that program has faced a lot of criticism. I am not here to debate the merits of NFIP, as it certainly plays a role in the immediate term to insure existing properties that aren't otherwise insurable. However, when discussing resiliency and mitigation, part of that conversation must include a discussion about ***not providing NFIP coverage to new construction in flood zones*** that only grows the risk. The question I ask, if the private sector will not insure the risk of new construction in flood prone areas, why should the taxpayer?

Thank you for the opportunity to be here today, and I look forward to answering any of your questions.