REINSURANCE
ASSOCIATION
OF AMERICA

STATEMENT

TESTIMONY OF
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PRESIDENT
REINSURANCE ASSOCIATION OF AMERICA

BEFORE THE UNITED STATES SENATE COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS

DURING THE HEARING ON "21ST CENTURY COMMUNITIES: CLIMATE CHANGE, RESILIENCE, AND REINSURANCE"

JULY 20, 2021

Chairman Brown, Ranking Member Toomey, and members of the Committee on Banking, Housing, and Urban Affairs (Committee), thank you for the opportunity to testify during today's hearing entitled, "21st Century Communities: Climate Change, Resilience, and Reinsurance," and thank you for your interest in the U.S. property casualty (re)insurance industry.

I am Frank Nutter, President of the Reinsurance Association of America (RAA). The RAA is the leading trade association of property and casualty reinsurers doing business in the United States. RAA membership is diverse, including reinsurance underwriters and intermediaries licensed in the U.S. and those that conduct business on a cross border basis. The RAA represents its members before state, federal and international bodies.

The RAA encourages the Committee, Congress, and Administration to improve America's community resilience in the face of climate and natural disaster risks, including the risk of flooding. The RAA specifically recommends that infrastructure and other legislation establish Community Disaster Resilience Zones (CDRZ). Our proposal would direct public and incentivize private sector investment to help improve infrastructure resilience, including affordable housing resilience, for communities that are the most in need and most at risk from natural disasters. Our CDRZ proposal is described in detail below. The RAA also supports a long-term reauthorization of the National Flood Insurance Program (NFIP) and flood insurance reforms.

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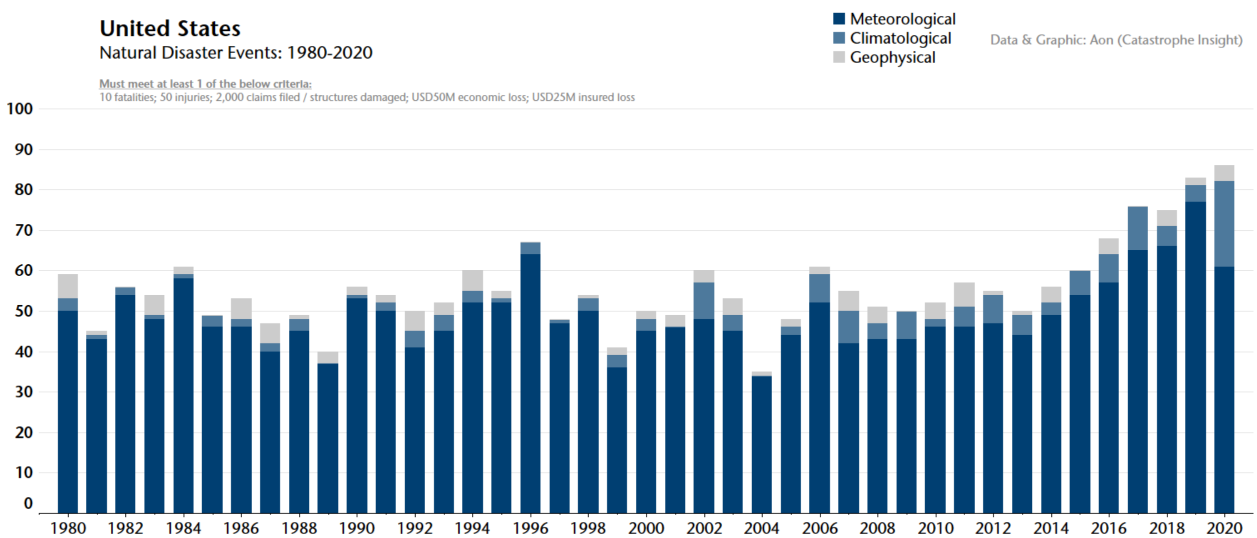
Climate Change and Natural Disaster Risks

The RAA's longstanding policy recognizes climate change and the impacts of climate change, and the RAA is committed to working with policymakers, regulators, and the scientific, academic, and business communities to assist in promoting awareness and understanding, as well as addressing the risks associated with climate change. A copy of the RAA's climate change policy can be found on our website and in Appendix A of this statement.[1] At the federal, state, and local levels, it is especially critical that the private sector address significant natural disaster risks associated with floods, wildfire, earthquake, or other devastating natural disaster events. Urgently addressing these risks is particularly important as the frequency, severity, and costs of many natural disasters continue to increase due to climate change.

The U.S. Department of Commerce National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information reported that, "The U.S. has sustained 298 weather and climate disasters since 1980 where overall damages/costs reached or exceeded $1 billion (including CPI adjustment to 2021). The total cost of these 298 events exceeds $1.975 trillion."[2] According to NOAA, "Each state has been affected by at least $1 billion-dollar disaster since 1980."[3] Tables 1-4, by Aon's Catastrophe Insight division, demonstrate the increase in the number of natural disaster events and overall and insured losses in the U.S. and globally from 1980 to 2020. In 1980, the U.S. had 59 natural loss events that resulted in $57 billion in overall losses, including $5 billion in insured losses, compared to 203 natural loss events globally that resulted in $180 billion in losses, including $7 billion in insured losses.[4] Fast forward to 2020, and the U.S. had 86 natural loss events that resulted in $129 billion in overall losses, including $81 billion in insured losses, compared to 352 natural loss events globally that resulted in $289 billion in losses, including $105 billion in insured losses.[5]

Table 1.



[1] https://www.reinsurance.org/Advocacy/RAA_Policy_Statements/
[2] https://www.ncdc.noaa.gov/billions/
[3] https://www.climate.gov/news-features/blogs/beyond-data/2010-2019-landmark-decade-us-billion-dollar-weather-and-climate
[4] Catastrophe Insight division, Aon plc, July 2021
[5] Catastrophe Insight division, Aon plc, July 2021

Table 2.

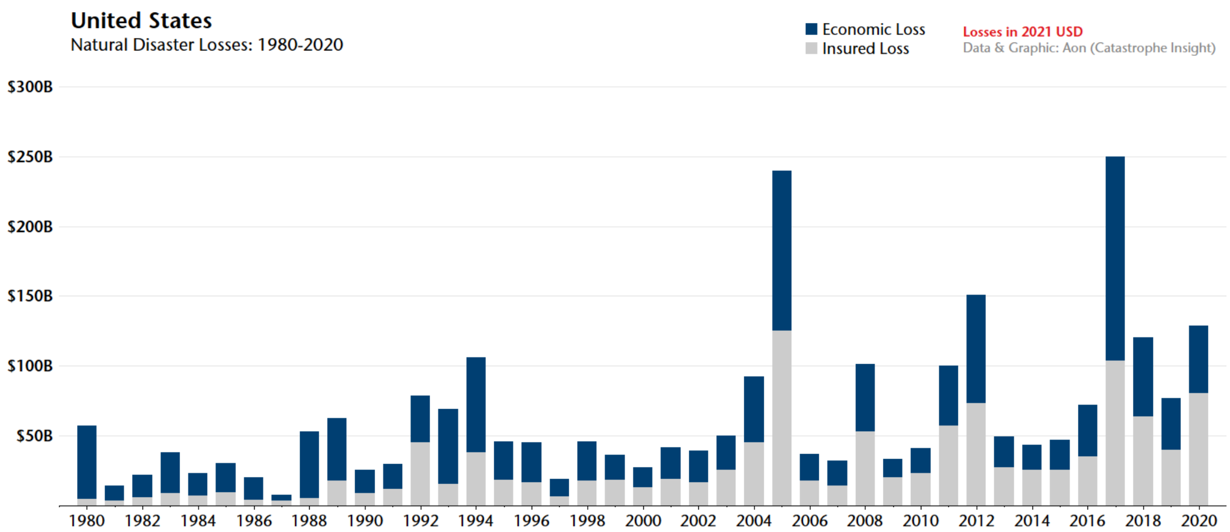


Table 3.

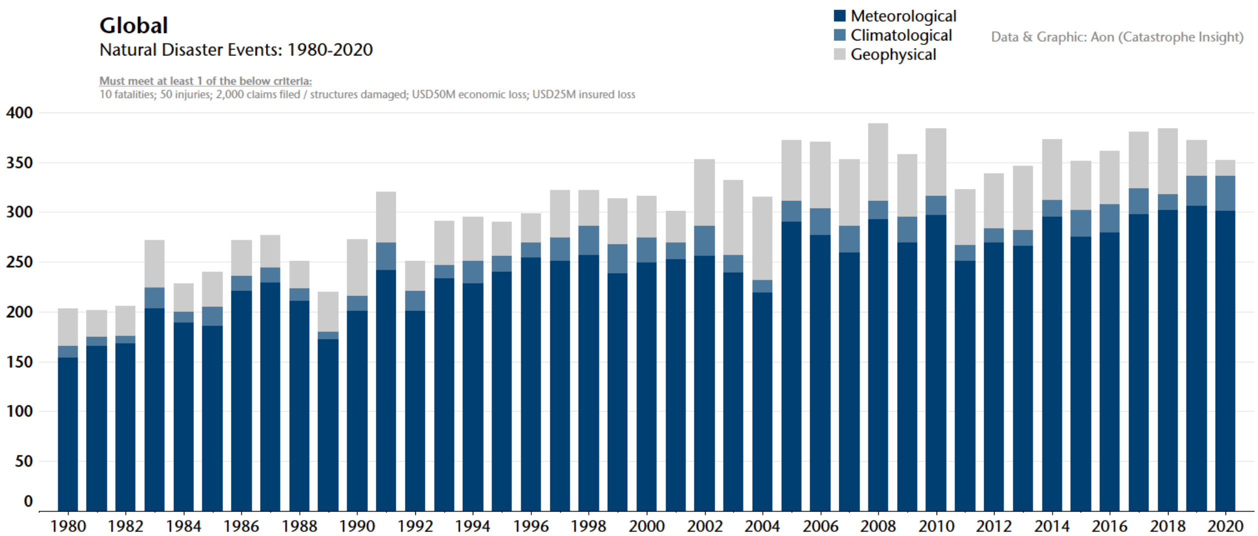
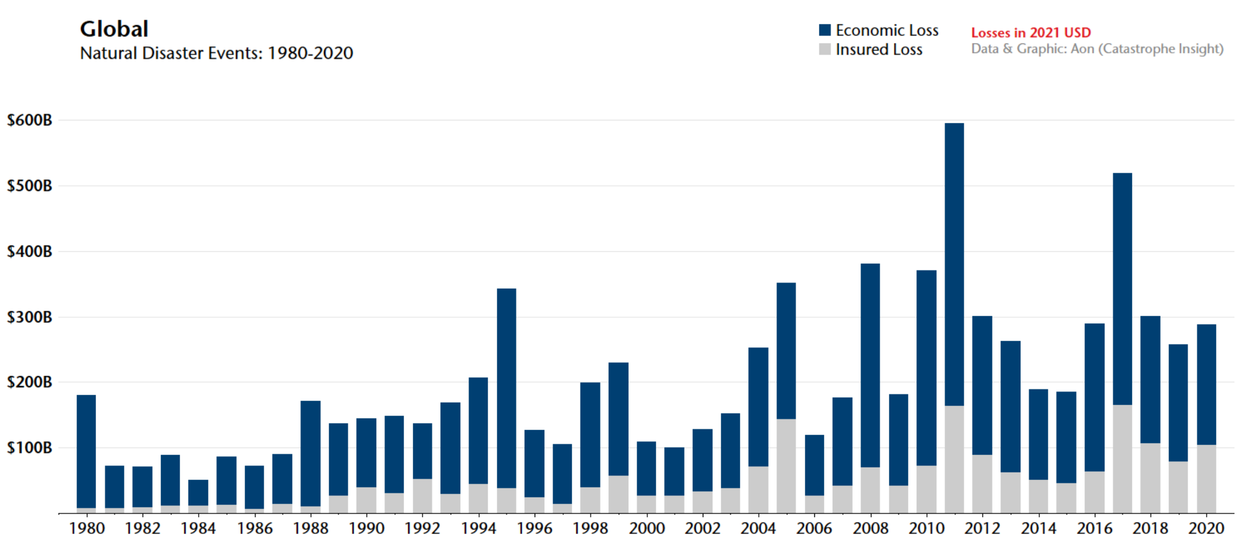


Table 4.



Insurance is a critical component for economic and social recovery from the effects of extreme weather and climate driven events. In the financial services sector, property casualty insurers and reinsurers are the most exposed to natural disasters, especially those impacted by climate and weather. The industry would be at great financial risk if it did not understand global and regional climate impacts, variability and developing scientific assessment of a changing climate. Integrating this information into the insurance sector is an essential function. Insurance pricing also is a mechanism for conveying the consequences of decisions about where and how we build and where people choose to live.

Our industry is science based. Blending the actuarial sciences with the natural sciences is critical to providing the public with the financial resources needed to recover from natural catastrophic events. As the scientific community's knowledge of climate change continues to develop, it is important for (re)insurers to incorporate that information into the exposure and risk assessment process and that it be conveyed to stakeholders, policyholders, the public and public officials that can or should address adaptation and mitigation alternatives. Developing an understanding about climate and its impact on various risks – for example, wildfires, droughts, heat waves, the frequency and intensity of tropical hurricanes, thunderstorms, and convective events, rising sea levels and storm surge, more extreme precipitation events and flooding – is critical to our role in translating the interdependencies of weather, climate risk assessment and pricing.

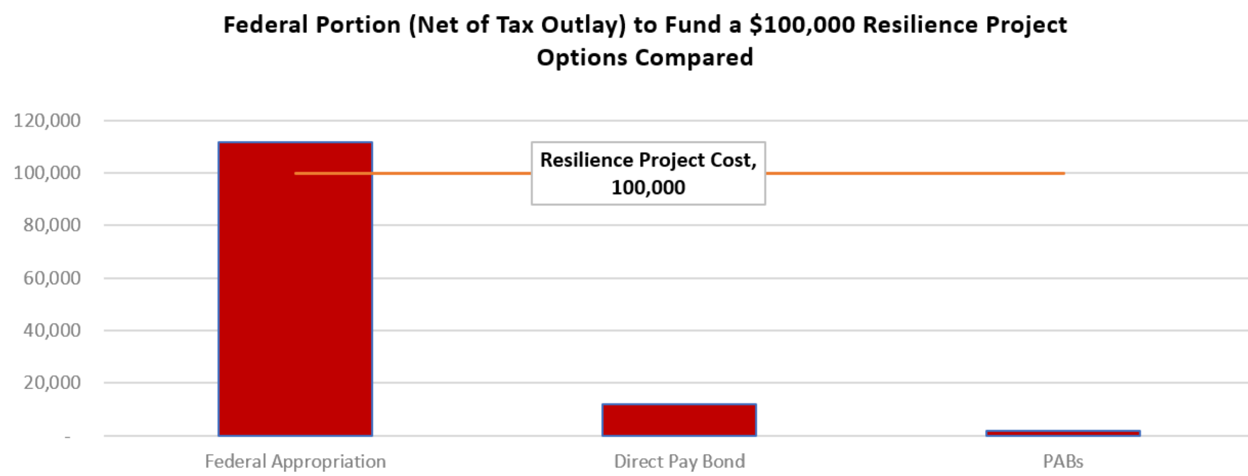
Climate-related and natural disaster risk exposure is broad-ranging. These risks are widespread, geographically diverse, and include a range of natural disaster perils impacting homeowners and renters, property owners, servicers, mortgage investors, taxpayers, and communities. It is important to ensure that these risk exposures are addressed and mitigated. Natural hazard mitigation includes physical enhancements and insurance to better protect residential properties and other infrastructure against damage caused by natural disasters. For government programs, government-sponsored enterprises, private sector financial institutions, and taxpayers, financial mitigation also is important to protect against any mortgage credit default risk associated with natural disaster risk.

The RAA believes a variety of solutions should be used to improve community resilience to the benefit of all those in the value chain of climate and natural disaster risk exposure. The RAA also believes that it is important to address geographic, natural disaster peril, and socioeconomic diversity. Some traditional solutions, like property insurance protections for homeowners certainly can and should be utilized, but new analytical capabilities that increasingly and intelligently can help reduce risk and direct resources to achieving that goal also should be pursued.

Investing in Resilience for America's Communities is Critical, Logical, and Smart

Dedicated federal appropriations in the form of grants are one option but limited, and for the federal government, the costliest mechanism to pay for resilience projects. Table 5 provides an example of the cost to federal taxpayers to fund a $100,000 resilience project using federal appropriations versus direct pay bonds and private activity bonds. For fiscal year 2020, FEMA made $700 million available for hazard mitigation grant programs but received over 1,200 applications requesting an estimated $4 billion.[6] There is demand, but traditional appropriation funding is inadequate.

Table 5.



Source: RAA, July 2021

In December 2019, the National Institute of Building Sciences issued its U.S. Department of Housing and Urban Development-funded "Natural Hazard Mitigation Saves" report.[7] The report describes that federal disaster mitigation has saved $6 for every $1 invested since 1995. Other mitigation-related activities, such as updating building codes to ensure resilient structures, and investments can save between $4 and $11 for every $1 spent. Investing in mitigation can reduce the impact of future disasters on lives, property, and the economy. Congress and the Administration can increase these investments by directing both public and incentivizing private sector resources to support infrastructure resilience projects.

Reducing the impact of climate and natural disaster risk in the first place, followed by other protections like traditional insurance and risk transfer – particularly to benefit vulnerable homeowners and renters in rural and urban areas – should be a top public and private-sector priority for climate and natural disaster resilience and risk management.

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[6] https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities/fy2020-subapplication-status#2020-chart

[7] https://www.nibs.org/projects/natural-hazard-mitigation-saves-2019-report

As a member of the BuildStrong Coalition, the RAA supports the Coalition's work to further the achievements of the bipartisan "Disaster Recovery Reform Act of 2018," which significantly increased America's investment in pre-disaster mitigation to help communities protect against disaster risk. The RAA specifically supports the Coalition's objectives, including to:

- Increase disaster mitigation funding for FEMA's Building Resilient Infrastructure and Communities (BRIC) program;
- Provide incentives for state and local communities to strengthen and enforce building codes;
- Invest in risk-reducing enhancements to improve the resilience of lifeline infrastructure;
- Create incentives and investments that help to improve resilience;
- Encourage the use of American-made products for resilience projects; and
- For state, local, and tribal governments, provide resources and eliminate barriers to enhance resiliency and protect against all hazards.[8]

The RAA also is a member of the SmarterSafer Coalition and supports the Coalition's recently released priorities for Congress in relation to infrastructure legislation:

- Enhance infrastructure-related research, including that which pertains to climate risk, and match new findings from new research with advanced pre-disaster mitigation plans and investment in pre-disaster mitigation.
- Invest in natural and climate resilience infrastructure projects.
- Improve infrastructure resilience in America's floodplains, as envisioned in the "Flood Risk Management Act" (S. 1688), the "Flood Resiliency and Taxpayer Savings Act" (H.R. 481) and the "Built for Future Disasters Act of 2021" (H.R. 2632); and consider and address the racial inequities inherent in federal disaster assistance and hazard mitigation assistance programs that reflect and perpetuate discriminatory practices and historic redlining.
- Facilitate and strengthen public-private partnerships, such as transferring risk to private financing, insurance, and reinsurance to shift some of the financial burdens associated with climate change from the government's balance sheet to willing private sector participants to improve the implementation of federal programs.

[8] https://buildstrongamerica.com/about-us/; https://homeland.house.gov/imo/media/doc/2021-06-08-EPRR-HRG-Testimony-Williams.pdf

- Direct federal funds to outcome-driven projects that strengthen communities and reduce long-term risk, such as requiring stronger minimum design standards and incorporate forecasts of future conditions for federal infrastructure investments, as envisioned in the "Build to Last Act" (S.1282/H.R.2760).[9]

The RAA endorsed the "Insurers' Principles of Climate Change Adaptation" recently released by the Insurance Institute for Business & Home Safety (IBHS), which "outline the steps policymakers – in collaboration with the insurance industry and other private sector stakeholders – should take to improve the resilience of American homes, businesses, and communities." Details about the Principles can be found online, but an overview is as follows:

- Principle 1: Climate Change Adaptation is Necessary;
- Principle 2: Building Codes and Land Use Support Tomorrow's Resilience;
- Principle 3: Prioritize Funding for Increasing Resilience of Existing Structures;
- Principle 4: Make Resilience Available for All;
- Principle 5: Leverage Climate Data and Analytics to Support Climate Change Adaptation; and
- Principle 6: Enhance Resilience for Public Infrastructure and Facilities. [10]

The RAA also supports legislation to use the tax code to provide homeowners and business with incentives to improve building resilience and better protect against the natural disaster risks they face, including:

- The "Disaster Tax Relief Act of 2021" (H.R.3954) provisions that, like federal disaster mitigation grants, would exempt from federal taxation state disaster mitigation grants that help people protect their homes against windstorms, earthquakes, or wildfires;[11] and
- The "Strengthening Homes and Eliminating Liabilities Through Encouraging Readiness (SHELTER) Act (S.1805/H.R.3925) to provide individuals and businesses a disaster mitigation tax credit, specifically 25% of qualifying mitigation expenses of up to $5,000.[12]

FEMA's BRIC program, the U.S. Department of Housing and Urban Development programs, the U.S. Department of the Treasury's Capital Magnet Fund, and other federal programs should direct funding resources toward achieving housing climate and natural disaster resilience for "extremely low- and very low-income households" that face significant natural disaster risk and particularly

[9] https://www.smartersafer.org/about-us/; https://www.smartersafer.org/2021/07/15/smartersafer-infrastructure-priorities-letter/
[10] https://adaptingtoclimate.com/
[11] https://mikethompson.house.gov/newsroom/press-releases/thompson-announces-introduction-of-disaster-tax-relief-act-of-2021
[12] https://www.cassidy.senate.gov/newsroom/press-releases/cassidy-bennet-introduce-new-tax-credit-for-working-families-small-businesses-preparing-for-natural-disasters-;
https://crist.house.gov/news/documentsingle.aspx?DocumentID=2386

that expose taxpayer-backed federal housing programs to climate and natural disaster risks.[13] In general, the RAA also recommends that the Financial Stability Oversight Council (FSOC) and all of its members prioritize climate and natural disaster resilience efforts for federally funded and federally-backed residential properties in communities that are the most in need and most at risk from significant natural disaster(s).

The RAA's Community Disaster Resilience Zones Proposal

Low-income and minority neighborhoods are disproportionately impacted by natural disasters.[14] This fact should be a priority consideration for policymakers and the private sector as we work to understand and address the climate and natural disaster-related risks facing communities across America. The RAA has developed an innovative approach to addressing climate and natural disaster resilience, specifically to improve infrastructure resilience in the face of natural disasters and address socio-economic disparities. The RAA urges Congress and the Administration to include our proposal as part of infrastructure or other legislation that may become law during the 117th Congress.

In general, the RAA's proposal would create a federal structure that directs public and incentivizes private-sector funding for resilience projects to communities most in need and most at risk from significant natural disaster(s). More specifically, it would:

1) Address the impact of climate change through data-driven analysis;

2) Establish Community Disaster Resilience Zones (CDRZ) for communities most in need and most at risk from significant natural disaster(s); and

3) Direct and incentivize public and private-sector investment in the CDRZ to improve infrastructure resilience.

Under the proposal, CDRZ communities would be provided a menu of funding and financing options to pay for resilience projects to better protect them against significant natural disaster risk(s). Climate and natural disaster resilience projects could include:

- Nature-based solutions designed to increase climate and natural disaster resilience, such as the creation of open space, the restoration of wetlands, coastal barriers, beaches, and natural protections;

- Retrofit existing facilities to increase climate and natural disaster resilience, including the construction of emergency storm shelters, safe rooms, upgraded roofs, and other risk-reducing and community-resilience enhancing actions;

- Construction of new facilities with design and construction features that provide climate and natural disaster resilience;

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[13] https://www.hudexchange.info/programs/htf/; https://www.cdfifund.gov/programs-training/programs/cmf
[14] https://www.americanprogress.org/wp-content/uploads/2013/08/LowIncomeResilience-2.pdf

- Retrofit, construction, or other updates to lifeline infrastructure, including water, electric, and communications infrastructure, that increase the infrastructure's climate and natural disaster resilience; and

- Programs that provide funding to property owners to retrofit existing structures, including single-family homes, multifamily homes, and commercial buildings, with design and construction features that provide climate and natural disaster resilience.

The RAA's legislative proposal has a few core components to help achieve these objectives:

I. Codify, enhance, and utilize FEMA's National Risk Index for Natural Hazards (NRI) data to find the intersection of risk, vulnerability, and low community resilience scores, as the basis to identify and establish the CDRZ that reflect diversity among the states by geography and type of peril, such as fire storm/wildfire, tornado, hurricane, flooding, ice storms, earthquake, wind, hail, and drought.

II. Within CDRZ, coalesce a variety of funding mechanisms, providing a menu of financing enhancements and tax incentives that can focus federal, state, local, charitable, and private-sector investment in resilience projects. To help fund resilience projects in CDRZ the proposal would establish:

  - CDRZ **taxable direct pay bonds**, like Recovery Zone Economic Development Bonds, which were one of three types of Build America Bonds that Congress created in 2009 as part of financial crisis economic recovery legislation (these bonds are federally subsidized bonds issued by state and local governments for local projects that support community resilience);

  - CDRZ **tax-exempt facility private activity bonds** subject to a separate volume cap, like Recovery Zone Facility Bonds (also in the 2009 recovery legislation), and provide for life and property/casualty insurers' exclusion from proration for investments in these CDRZ bonds (the proceeds from these federally tax-exempt bonds would be utilized by private or quasi-governmental entities to fund resilience projects that benefit a public purpose);

  - Federal **transferrable tax credits for individuals** for resilience improvements to housing in CDRZ;

  - Federal **tax credits for charitable contributions** for resilience projects in CDRZ; and

  - Federal tax credits for community-level projects in CDRZ that are tradeable, transferrable, and do not expire, and allow proceeds from the sale of certified tax credits to be used to, for example, meet matching requirements for federally funded resilience projects.

Limited federal funds can leverage non-federal funding if Congress establishes a variety of options to pay for resilience projects. Some CDRZ communities – with good credit issuer ratings and a tax base that can support resilience projects – will be eligible to use taxable direct pay bonds and private activity bonds. CDRZ communities – that are unable to access the debt markets because they do not have a tax base that can support additional borrowing or have reached their debt limits will need Congress to provide options like transferrable tax credits, similar to the Low-Income Housing Tax Credit, and charitable tax credits, versus deductions, to incentivize and direct the business and philanthropic communities to invest and donate funds to pay for resilience projects.

CDRZ resilience project bonds and tax credits are likely to be very attractive to corporations, especially given the increasing corporate focus on investing and charitable contributions to achieve objectives related to Environmental, Social, and Governance (ESG) factors. The insurance industry (property casualty, life, and health) is one of the largest holders of bonds in the U.S. The $1.2 trillion of $4.4 trillion in U.S. Treasury, corporate, and municipal bonds held by the insurance industry will mature and need to be reinvested over the next 5 years. Federal bond and tax incentives could encourage investments toward CDRZ resilience projects.

III. Set aside and unlock federal program funding to invest in resilience projects in CDRZ. This could include waiving, reducing, or allowing other forms of financing, such as the proceeds from the sale of tax credits mentioned above and in-kind and charitable donations, to qualify for matching funds for resilience projects in CDRZ. Allowing a variety of resources to contribute to and invest in resilience projects in CDRZ, as they relate to federal program matching fund requirements, could significantly unlock resources for CDRZ resilience projects. For example, with more flexibility to meet matching fund requirements, CDRZ resilience projects could more likely benefit from FEMA's BRIC program funding and funding from other federal programs. FEMA, HUD, and other federal agencies also should provide resources, such as financial and technical assistance, to CDRZ communities to help facilitate resilience project planning.

The RAA developed a data analytics tool and the CDRZ legislative proposal that aligns with Congressional interests and President Biden's plan, Executive orders, announcement, and fiscal year 2022 budget proposal[15] to rebuild America's infrastructure, enable green initiatives and smart building to address the impact of climate change, create needed jobs, fuel economic recovery, support historically underserved communities where the need is often greatest, and provide sources of much-needed resilience project funding to states and localities.

The RAA's data analytics tool utilizes publicly available data to very clearly, by county, Congressional district, and census tract in each state, understand where natural perils, older housing stock, and disadvantaged populations converge. The data in the RAA's data analytics tool is from FEMA's NRI supplemented with data from the U.S. Census Bureau's American

[15] https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/; https://www.whitehouse.gov/briefing-room/presidential-actions/2021/05/20/executive-order-on-climate-related-financial-risk/; https://www.federalregister.gov/documents/2021/05/25/2021-11168/climate-related-financial-risk; https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/24/fact-sheet-biden-administration-invests-1-billion-to-protect-communities-families-and-businesses-before-disaster-strikes/; https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/26/fact-sheet-the-american-jobs-plan-will-produce-preserve-and-retrofit-more-than-2-million-affordable-housing-units-and-create-good-paying-jobs/; https://www.whitehouse.gov/wp-content/uploads/2021/05/budget_fy22.pdf

Community Survey (ACS). NRI includes data that identifies communities by census tract in each state and county that are the most at risk from 18 natural hazards, such as coastal and riverine flooding, earthquake, hail, hurricane, strong wind, tornado, and wildfire.[16] The NRI is different from other natural disaster risk scoring approaches because it scores census tract level loss exposure values (buildings, agricultural and population equivalence), social vulnerability, and community resilience across 18 natural hazard risks, to provide a more holistic view of risk.[17] The RAA urges policymakers to use the same information, particularly to understand the U.S. landscape and pinpoint and prioritize communities that are most in need and most at risk from significant natural disasters, diversified by state, Congressional district, and natural disaster peril.[18]

Appendix B of this statement includes examples from the RAA's data analytics tool, visualizing how FEMA's NRI and data from the Census Bureau's ACS can be used to understand vulnerability and risk for the state of Ohio, represented by Chairman Brown, and the state of Pennsylvania, represented by Ranking Member Toomey.

The RAA's proposal has been favorably mentioned during three Congressional hearings this year:

- March 18, 2021, House Transportation and Infrastructure Subcommittee on Economic Development, Public Buildings, and Emergency Management hearing on "Building Smarter: The Benefits of Investing in Resilience and Mitigation";[19]

- May 18, 2021, Senate Committee on Banking, Housing, and Urban Affairs hearing on, "Reauthorization of the National Flood Insurance Program, Part I";[20] and

- May 19, 2021, House Committee on Ways and Means hearing on "Leveraging the Tax Code for Infrastructure Investment".[21]

Housing Resilience

Given that most federal housing programs fall under the jurisdiction of this Committee, it has an important leadership role to play in prioritizing and directing federal program funding toward housing resilience, which is the third core component of the RAA's legislative proposal mentioned above. Housing, especially affordable housing, that can withstand the most significant disaster(s) that vulnerable communities across the country face is an investment in critical infrastructure. Witnesses from a variety of organizations have raised this point in testimony delivered during Congressional hearings, for example:

[16] https://www.fema.gov/flood-maps/products-tools/national-risk-index
[17] https://www.fema.gov/flood-maps/products-tools/national-risk-index/overview
[18] https://hazards.geoplatform.gov/portal/apps/MapSeries/index.html?appid=ddf915a24fb24dc8863eed96bc3345f8; https://www.census.gov/programs-surveys/acs
[19] https://transportation.house.gov/committee-activity/hearings/building-smarter-the-benefits-of-investing-in-resilience-and-mitigation
[20] https://www.banking.senate.gov/hearings/05/11/2021/reauthorization-of-the-national-flood-insurance-program-part-i
[21] https://waysandmeans.house.gov/legislation/hearings/ways-and-means-committee-hearing-leveraging-tax-code-infrastructure-investment

- “We invest in disaster recovery and resilience work because people of modest means are most likely to be harmed by disasters and tend to be the slowest to recover. Through our Building Resilient Futures initiative, we are working to ensure that sustainable, resilient, affordable housing becomes the norm and that communities are equipped to withstand and recover from disasters. Despite growing interest and commitment, our housing, infrastructure, and regions are not mitigating or adapting at the necessary pace of change. It’s time for America to invest in modern infrastructure that is built to last.”[22]
  - Jacqueline Waggoner, Enterprise Community Partners, Inc., House Financial Services Committee hearing, April 14, 2021

- “America built the transatlantic railroad in six years but somehow we struggle to deliver long term housing assistance to our most vulnerable citizens whose lives have been upended by natural disasters.”[23]
  - Reese C. May, SBP (The St. Bernard Project), House Transportation and Infrastructure Committee hearing, October 22, 2019

To that end, the RAA supports provisions in the “Housing is Infrastructure Act of 2021,” which was introduced by House Financial Services Committee Chairwoman Maxine Waters on July 16, 2021, that: prioritize applications for the $75 billion authorized for public housing agencies located in areas that have a plan to increase “climate and natural disaster resilience and water and energy efficiency,” authorize at least $19.1 billion for “climate and natural disaster resilience and water and energy efficiency” for ten federal affordable housing programs, and authorize at least $10.7 billion for affordable housing in areas of high and persistent poverty. The RAA also supports the bill’s $11.9 billion authorization for the National Flood Insurance Program’s (NFIP) Flood Mitigation Assistance Program.[24]

The RAA will continue to work with Chairwoman Waters on the “Housing is Infrastructure Act of 2021” and other legislation members of this Committee and the House Financial Services Committee may consider so that it can most impactfully help improve resilience in vulnerable communities that are most in need and most at risk from significant natural disaster(s).

The Protection Gap, (Re)Insurance, and the NFIP

Natural Disaster Insurance Protection Gap

Homeowners and renters, property owners, mortgage investors, taxpayers, and communities face risks due to climate change, natural disaster risks, and the lack of insurance coverage or underinsurance of such coverage. There is a serious and significant natural disaster insurance protection gap in the United States. The U.S. Department of the Treasury’s Federal Insurance Office’s Federal Advisory Committee on Insurance (FACI) has a subcommittee that is dedicated to addressing it. Several RAA members serve on both the FACI and the “Subcommittee on Addressing the Protection Gap through Public-Private Partnerships and Other Mechanisms.”

[22] https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=407532
[23] https://transportation.house.gov/committee-activity/hearings/an-assessment-of-federal-recovery-efforts-from-recent-disasters
[24] https://financialservices.house.gov/news/documentsingle.aspx?DocumentID=408154

During FACI's December 2019 meeting, the Subcommittee cited statistics to provide examples of the insurance protection gap in the U.S. and issued recommendations that FHFA should consider.[25] The National Association of Insurance Commissioners (NAIC) has published alarming statistics about the disaster insurance protection gap. For example, one NAIC statistic cited in the Subcommittee's presentation is that "Only 1% of properties outside of flood zones have flood insurance, yet half of U.S. floods occur in these areas." Various studies and reports, including a 2018 report by AIR Worldwide, have warned that the next big earthquake to impact California, likely by 2044, could result in $170 billion in total damage and almost half would be residential-related loss, $37 billion of which would be uninsured.[26] Given the likelihood of future, significant, and costly natural disasters throughout the U.S. and uninsured residential costs, it is important to have a coordinated effort focusing on closing the insurance protection gap.

Congress, the Administration, the NAIC, state and local officials, and the private sector, including reinsurers, should develop a comprehensive strategy to identify and address the natural disaster insurance protection gap in the U.S. and the risks it poses to homeowners and renters, property owners, individuals, businesses, and federal programs and taxpayers. It also is important to close the insurance protection gap. Congress and federal regulators should help initiate efforts to close the insurance protection gap via traditional insurance and risk transfer. Congress and federal regulators can further facilitate a private market for flood insurance, potentially providing consumers with more flood insurance options. One way to achieve this is for the Federal Housing Finance Agency (FHFA) and HUD's Federal Housing Administration (FHA) to align their regulations and/or guidance for private flood insurance with those issued in 2019 by federal lending regulators.[27] (In 2020, HUD issued a proposed regulation to align its regulations and guidance with that of the 2019 federal lending regulators[28]).

Primary Insurance

Traditional insurance solutions – such as primary property insurance protection, including earthquake, wind, fire, and flood insurance – are critical for people, property, jobs, businesses, and communities to be resilient in the aftermath of natural disasters. That is especially true since federal disaster assistance is provided only when there is a federally declared disaster and typically results in a fraction of what insurance assistance can provide. For example, according to FEMA, in 2019, the average, annual flood insurance premium was $700 (about $58 per month), and the average claim payout was $53,000.[29] Meanwhile, in 2019, federal disaster assistance was capped at $34,900 with an average annual payment of $6,246.[30] Ensuring that the protection gap is bridged, and property insurance adequately covers the climate and natural disaster risk(s) involved are of utmost importance. Risk transfer products that protect each stakeholder from climate and natural disaster risks can play an important role.

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[25] https://home.treasury.gov/system/files/311/December2019FACI_ProtectionGapPresentation.pdf; https://home.treasury.gov/system/files/311/December2019FACI_ProtectionGapProposedRecs.pdf
[26] https://www.air-worldwide.com/Publications/Infographics/Who-Will-Pay-for-the-Next-Great-California-Earthquake-/
[27] https://www.fdic.gov/news/financial-institution-letters/2019/fil19008.html
[28] https://www.federalregister.gov/documents/2020/11/23/2020-25105/acceptance-of-private-flood-insurance-for-fha-insured-mortgages; https://www.hud.gov/press/press_releases_media_advisories/HUD_No_20_191
[29] https://www.fema.gov/data-visualization/historical-flood-risk-and-costs
[30] https://www.federalregister.gov/documents/2018/10/22/2018-22884/notice-of-maximum-amount-of-assistance-under-the-individuals-and-households-program; FEMA communication with RAA, 4/16/2021

Reinsurance and Risk Transfer

Reinsurance. Reinsurance is essentially insurance for insurance companies, federal programs, and state insurance programs. It is a risk management tool for insurance companies and government programs to reduce the volatility in their portfolios and improve their financial performance and security.

Reinsurance also is the primary mechanism for spreading risk globally, thereby accessing a greater pool of capital to pay for inevitable catastrophic losses. Consistent with the intent of Congress, reinsurers believe the private sector can and should assume more federal government risk. Reinsurers are willing to offer reinsurance options to a wide variety of government programs to help manage their exposure to losses.

Reinsurance is extensively used by the private markets to diversify risk and protect against future losses. Reinsurance is purchased for essentially four reasons: (1) to limit liability on specific risks; (2) to stabilize loss experience; (3) to protect against catastrophes; and (4) to increase capacity. Depending on the purchaser's goals, different types of reinsurance contracts are available to bring about the desired result. For federal programs, purchasing reinsurance would mitigate the financial impact of any large-scale future losses and help to prevent any future funding lags as it is pre-arranged financing for losses. Reinsurance also allows federal programs to gain financial flexibility and not be forced to rely on emergency federal funding in the event of defaults that could put programs in jeopardy.

Risk Transfer. Risk transfer, including reinsurance, is a successful solution used by both the public and private sector including (re)insurers, financial institutions, and government programs. In addition to federal programs, which are described below, risk transfer also has been used by state programs, including the California Earthquake Authority, California Wildfire Fund, Florida Hurricane Catastrophe Fund, Florida Citizens Property Insurance Corporation. Government risk can and should be transferred voluntarily to the private market. The use of private capital will protect consumers, taxpayers, and communities, while spreading risk throughout the globe to insurers and other capital providers who are willing to assume such risk. Risk transfer will strengthen government programs by giving them the financial flexibility to ensure they continue to remain viable in the long term.

Benefits of Risk Transfer. Risk transfer can help both government agencies and private businesses analyze and manage risk by providing financing stability and reducing the impact of future losses. For a variety of federal programs and operations, the reinsurance market has the capacity and interest to assist the government to appropriately manage its risk. Opportunities exist for the federal government to benefit from the competitive market's risk management services and risk transfer capabilities to deleverage federal program balance sheets and simultaneously increase protections for U.S. taxpayers. Expanded utilization of (re)insurance would reduce systemic risk by further diversifying insurance and credit risks and by transferring more of the enormous exposure currently borne by taxpayers, such as the mortgage default risk to the government sponsored enterprises (GSEs) following a major U.S. earthquake. Reinsurers are poised to work with the Congress and the Administration to expand and maximize the federal government's utilization of the private market to the extent the industry can write credit risk.

As noted above, reinsurance is routinely utilized by insurers and government programs to provide a crucial safety net for low frequency, high severity natural and man-made events that result in extreme insured losses. Insurers rely on reinsurers to assume losses for a single event or, in many cases, for an accumulation of losses from hurricanes, earthquakes, winter storms, wildfires, or terrorist attacks. Some historic events illustrate this. Hurricanes Katrina, Rita and Wilma in 2005 caused over $92 billion in insured losses, and reinsurers bore around 28% of the losses from those events.[31] Reinsurers assumed 55% of $41 billion in insured losses from the terrorist events of September 11.[32] Superstorm Sandy caused $25 billion in insured losses with reinsurers taking 30% of those losses.[33] The pattern of risk transfer for catastrophe-exposed property insurance to the reinsurance market applies across the global insured landscape as well.

Examples of Successful Federal Government Risk Transfer Programs

Several federal government agencies already have risk transfer programs in place. These programs highlight the ways in which risk transfer can succeed for government agencies.

NFIP. The best example of an ongoing federal risk transfer program is the Federal Emergency Management Agency's (FEMA's) NFIP Reinsurance Program. The NFIP Reinsurance Program enables the NFIP to utilize the private market to help manage the financial burden of the NFIP's catastrophic flood risk by providing financial backing for the government's flood risk, protecting taxpayers, and helping the program to be more resilient and pay claims. In 2016, FEMA, launched its NFIP Reinsurance Program via a pilot and, in 2017, transferred $1.042 billion of the NFIP's financial risk to 25 reinsurers, offsetting some of NFIP's risk to the private sector in lieu of U.S. taxpayers. In the program's first year (2017), FEMA collected from the private reinsurance sector the full $1.042 billion to help pay the cost of NFIP losses and claims resulting from Hurricane Harvey. This 2017 coverage, which also improved NFIP's financial viability and protected taxpayers, cost $150 million, and the program successfully renewed the subsequent year. This example is a true testament of successful private public partnerships. Following the 2017 placement, the program was renewed and currently has reinsurance coverage through 2024. For FEMA's traditional reinsurance placements from 2017 through the first quarter of 2021 and capital market reinsurance placements from 2018 through the first quarter of 2021, FEMA has paid a total of $1.264 billion in premium to reinsurers and the capital markets, received $1.042 billion from reinsurers as previously mentioned, and through July 31, 2021, has up to $2.928 billion in reinsurance and capital markets placements available to collect after a qualifying loss event.[34] The initial 2017 purchase marked key first steps towards helping the NFIP achieve long term resilience and financial stability and was crucial in enabling the reinsurance program to be a long-term project. (Please see below for more detailed comments on the NFIP).

EXIM. The Export-Import Bank of the U.S. (EXIM) also executed a reinsurance pilot program. In 2016, EXIM solicited risk management analytical services regarding risk sharing structures to assess transferring some of the risks in EXIM's portfolio to the private market. In March 2018,

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[31] Holborn Corporation, "Holborn Perspectives, Looking Closer At…SuperStorm Sandy," December 12, 2012
[32] Holborn Corporation, "Holborn Perspectives, Looking Closer At…SuperStorm Sandy," December 12, 2012
[33] Holborn Corporation, "Holborn Perspectives, Looking Closer At…SuperStorm Sandy," December 12, 2012
[34] https://www.fema.gov/flood-insurance/work-with-nfip/reinsurance; https://www.fema.gov/flood-insurance/work-with-nfip/watermark-financial-statements?web=1&wdLOR=c92E70680-BBC6-4687-81BD-4579F7073DBD; https://www.fema.gov/flood-insurance/work-with-nfip/watermark-financial-statements/library?web=1&wdLOR=cE9491E0B-A8DC-424C-9843-C6CC3503BF36

EXIM announced its reinsurance pilot program, which provided for $1 billion in loss coverage for a significant portion of EXIM's existing portfolio of large commercial aircraft financing transactions. EXIM stated that it was the largest public-private risk-sharing arrangement for a U.S. government credit agency and minimized EXIM and U.S. taxpayers' liability for potential future losses without requiring additional funding. This purchase of reinsurance gives EXIM protection from future losses and financial flexibility for the future.[35] In 2021, EXIM announced an expansion of its risk-sharing program.[36]

FHFA. The Federal Housing Finance Agency (FHFA) also has a credit risk transfer program for the Government Sponsored Enterprises (GSEs), Fannie Mae and Freddie Mac, in support of the U.S. housing market. FHFA launched its credit risk transfer initiative in 2012 (when the GSEs were in their fourth year of conservatorship) to enlist the private sector to reduce taxpayer exposure to the GSEs' mortgage risk. In 2013, the GSEs initiated their pilot $77 million credit risk transfer transaction, and it has grown since then. Over 50 (re)insurers have participated in FHFA's credit risk transfer programs and assumed U.S. mortgage risk. From the program's 2013 inception through the second quarter of 2021, the GSEs have transferred roughly $140 billion of credit risk on unpaid balances of more than $4 trillion of single-family mortgages through the capital markets, reinsurance, and front-end reinsurance transactions.[37] The GSEs purchased insurance primarily from diversified reinsurers. These partially collateralized transactions spread across many different reinsurers reduce risk in a variety of ways. Since the FHFA announced in May 2020 its re-proposed, and now final, GSE capital rule that reduced by half the capital relief for credit risk transfer, Fannie Mae has not executed new credit risk transfers.[38]

National Flood Insurance Program

The RAA greatly appreciates the leadership of Members of Congress, specifically those who serve on the Senate Committee on Banking, Housing, and Urban Affairs and the House Committee on Financial Services, for starting a formal conversation on reauthorization of the NFIP. The RAA has urged Congress to reauthorize NFIP and to enact flood insurance and mitigation-related reforms. The RAA supports a long-term reauthorization of the NFIP and reforms that:

- Continue to strengthen NFIP's financial framework and resiliency so that it can pay claims, particularly after catastrophic events;

- Remove impediments to consumer choice and confirm consumer protections; and

- Modernize the statute to give FEMA additional tools to encourage additional private market participation, including capital, in NFIP to benefit consumers and taxpayers.

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[35] https://www.exim.gov/news/exim-bank-announces-landmark-risk-sharing-program-private-sector-reinsurers

[36] https://www.exim.gov/news/exim-increases-taxpayer-protections-announcement-new-broker-partnership-aon-reinsure-portfolio

[37] Aon plc, July 2021; https://clarity.freddiemac.com/; https://capitalmarkets.fanniemae.com/tools-applications/data-dynamics

[38] https://www.fhfa.gov/Media/PublicAffairs/Pages/FHFA-Releases-Re-Proposed-Capital-Rule-for-the-Enterprises.aspx; https://www.sec.gov/Archives/edgar/data/0000310522/000031052221000156/fnm-20201231.htm; https://www.sec.gov/Archives/edgar/data/0000310522/000031052221000192/fnm-20210331.htm

The RAA supports the SmarterSafer and BuildStrong coalitions' reform proposals. The RAA also supports the "State Flood Mitigation Revolving Fund Act" (S.2192/H.R.1610-116th) as described in the letter in Appendix C of this testimony.[39]

Confirm Consumer Protections. Flood insurance uncertainty for consumers, as it relates to continuous coverage and potential rate increases by the NFIP, are an impediment to consumers buying private flood insurance and limit consumers' choices. Insurance agents and brokers have stated that "…the risk of a substantial NFIP rate increase should the consumer later wish to return to the NFIP often makes insurance agents and brokers hesitant to recommend private flood insurance policies."[40] It is important that Congress and FEMA provide consumers with clarity about continuous coverage compliance so that current and future NFIP policyholders are confident that they have complied with the law's continuous coverage requirements by having an NFIP or private flood insurance policy. For example, if a consumer leaves the NFIP to secure a private flood policy with better coverage and a better price and later re-assumes an NFIP policy, so long as the consumer had continuous coverage, that NFIP policy should be at the same rate and terms as if the consumer had continuously maintained an NFIP policy.

The RAA supports legislation from the 116th Congress (H.R. 1666) introduced by Representatives Kathy Castor (D-FL) and Blaine Luetkemeyer (R-MO) to amend the National Flood Insurance Act of 1968 (NFIA) to "consider any period during which a property was continuously covered by private flood insurance to be a period of continuous coverage, including for the purposes of NFIP subsidies."[41] In two previous Congresses, similar legislation had broad bipartisan support. In 2016, by a vote of 419-0, the House passed a similar provision as part of H.R. 2901 and, in 2017, by a vote of 58-0, the House Financial Services Committee passed a similar provision as part of H.R. 1422.

Support NFIP Reinsurance Program. The RAA supports FEMA's NFIP Reinsurance Program and requests that it be preserved in NFIP reauthorization and reform legislation.[42] The RAA has long advocated for the NFIP to utilize the private market to help manage the financial burden of the NFIP's catastrophic flood risk by providing financial backing for the government's flood risk, protecting taxpayers, and helping the program to be more resilient and pay claims. In 2021, for the fifth consecutive year, FEMA has successfully administered its NFIP Reinsurance Program that transfers risk from the NFIP to the capital markets, specifically through reinsurance placements and a catastrophe bond issuance.

Modernize 1968 NFIA Part A Authority. When enacted in 1968, over 50 years ago, the National Flood Insurance Act (NFIA) incorporated two approaches to providing consumers with flood insurance, Part A and Part B. The NFIP operates under Part B with the federal government assuming the full underwriting risk subject to the risk transfer program mentioned above. Congress should modernize Part A of the NFIA and clarify that FEMA can use its authorities simultaneously with the Part B program. Re-purposing and modernizing the statutory language in Part A would give FEMA additional tools to partner with private insurers, facilitate the

[39] https://www.pewtrusts.org/-/media/assets/2019/03/state-flood-mitigation-revolving-fund-supporters-draft-3-11-2019.pdf
[40] https://financialservices.house.gov/uploadedfiles/hhrg-116-ba00-wstate-heidrickc-20190313.pdf
[41] https://www.congress.gov/bill/115th-congress/house-bill/1422?q=%7B%22search%22%3A%5B%22H.R.+1422%22%5D%7D&s=1&r=3
[42] https://www.fema.gov/flood-insurance/work-with-nfip/reinsurance

participation of private insurers in NFIP on a risk-sharing basis, further improve NFIP's viability, increase the NFIP's resources to pay claims, and increase flood insurance opportunities for consumers. Part A reforms also can lead to a stronger public-private partnership, give private insurers experience in underwriting flood risk, and help close the flood insurance coverage gap.

The Part A statutory language currently authorizes the FEMA Administrator to facilitate and assist the creation of a pool of insurers on a risk sharing basis with the federal government to provide flood insurance through their network of agents and policyholder relationships. Under the statute, the Administrator defines the qualifications of insurers for the pool and risk capital to be provided. The Administrator is authorized to enter into a contractual relationship with the pool defining the insured risk to be retained and the government's risk through its reinsurance of the pool. Pursuant to the statute, the financial arrangement recognizes that the NFIP provides subsidies to certain policyholders.

The RAA specifically recommends that NFIP reauthorization legislation include the amendment offered to the "National Flood Insurance Program Reauthorization Act of 2019" and withdrawn by Representative Blaine Luetkemeyer (R-MO) during the House Financial Services Committee's June 11-12, 2019, mark up.[43] The amendment language would: (1) Require FEMA to solicit ideas for risk-sharing demonstration programs; (2) Provide FEMA with authority, but not require it, to conduct risk-sharing demonstration programs; and (3) Make technical amendments to the NFIA Part A authority, which FEMA can use for risk-sharing demonstration programs.

The above-mentioned reforms can further facilitate the development of a private flood insurance market and improve the viability of NFIP. The reinsurance market is interested and has the capacity to underwrite flood insurance risk, including extreme flood risk, in both the public NFIP program, private market, and any future public-private flood insurance partnerships. Actions taken in recent years by some states, such as Florida, have demonstrated the interest and benefits of private insurers assuming a broad cross-section of risk, and the same would result from the above flood insurance reforms. Reinsurers stand ready to partner with both the private- and public-sectors as the flood market transitions.

Conclusion

The RAA looks forward to continuing to work with Chairman Brown, Ranking Member Toomey, and other members of the Committee on legislation to improve America's housing and community resilience in the face of climate and natural disaster risks by prioritizing and directing public and private sector resources to communities that are the most in need and most at risk from natural disaster(s), closing the insurance protection gap, and enacting a long-term reauthorization of the NFIP and flood insurance reforms that facilitate the development of a private flood insurance market. Thank you for your consideration of our views and recommendations in this testimony. The RAA and its members welcome the opportunity to meet with you about our views and recommendations, work with you to develop CDRZ legislation, or answer any questions you may have.

[43] https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=407747; https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=403829

APPENDIX A

RAA CLIMATE CHANGE POLICY

The world's climate is changing. An increase in the severity and frequency of extreme weather is impacting daily life for the global community. Mounting evidence from the scientific community makes it increasingly clear that climate change is having a significant effect on the world's social and economic risks and that it will continue to do so. The scientific evidence also strongly indicates that human behavior is having an impact on the climate, primarily through carbon emissions.

With a fundamental role in assisting individuals and businesses manage risk, it is prudent for the insurance industry to acknowledge the changing climate as well as the risks it poses to all areas of its business. Furthermore, policymaking and corporate strategies must also reflect measures for the mitigation of, and adaption to, climate change.

The RAA is committed to working with policymakers, regulators, and the scientific, academic and business communities to assist in promoting awareness and understanding of the risks associated with climate change.

Specifically, the RAA will take the following actions:

- In the scientific arena, promote research on climate change, including improvements in the capability to assess climate change and extreme weather events. We acknowledge the importance of enhanced national and regional forecasting. Additionally, recognizing our primary reliance on the scientific community for fundamental insights about climate change, the RAA and individual member companies will provide to the public, insurers and to policymakers our understanding of the likely impact of climate change, particularly the impact of extreme weather events on insurers and policyholders.

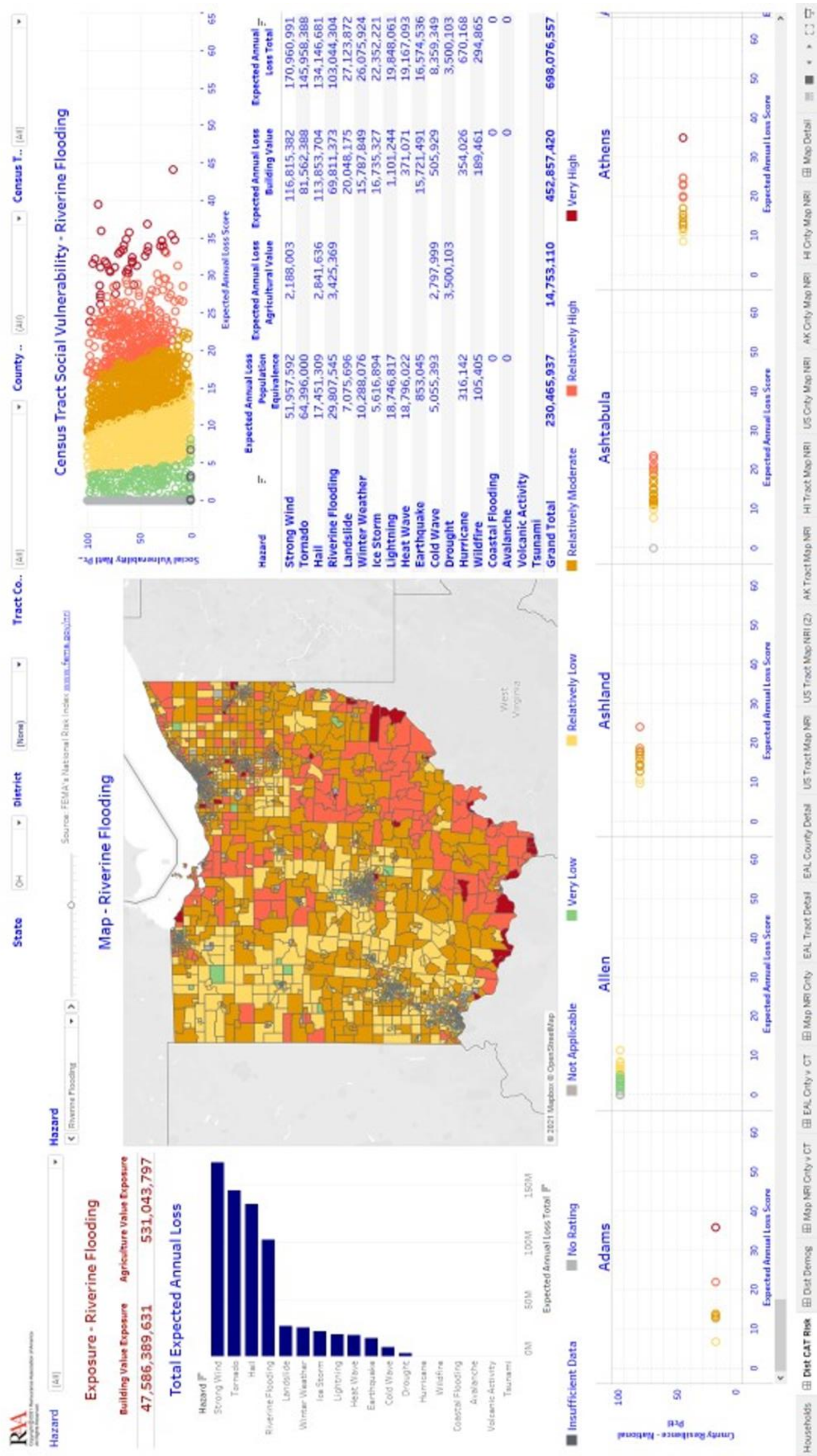
- Support climate change awareness for insurers and policyholders. Additionally, the RAA will work with regulators and industry to develop appropriate risk disclosure responsibilities of insurers.

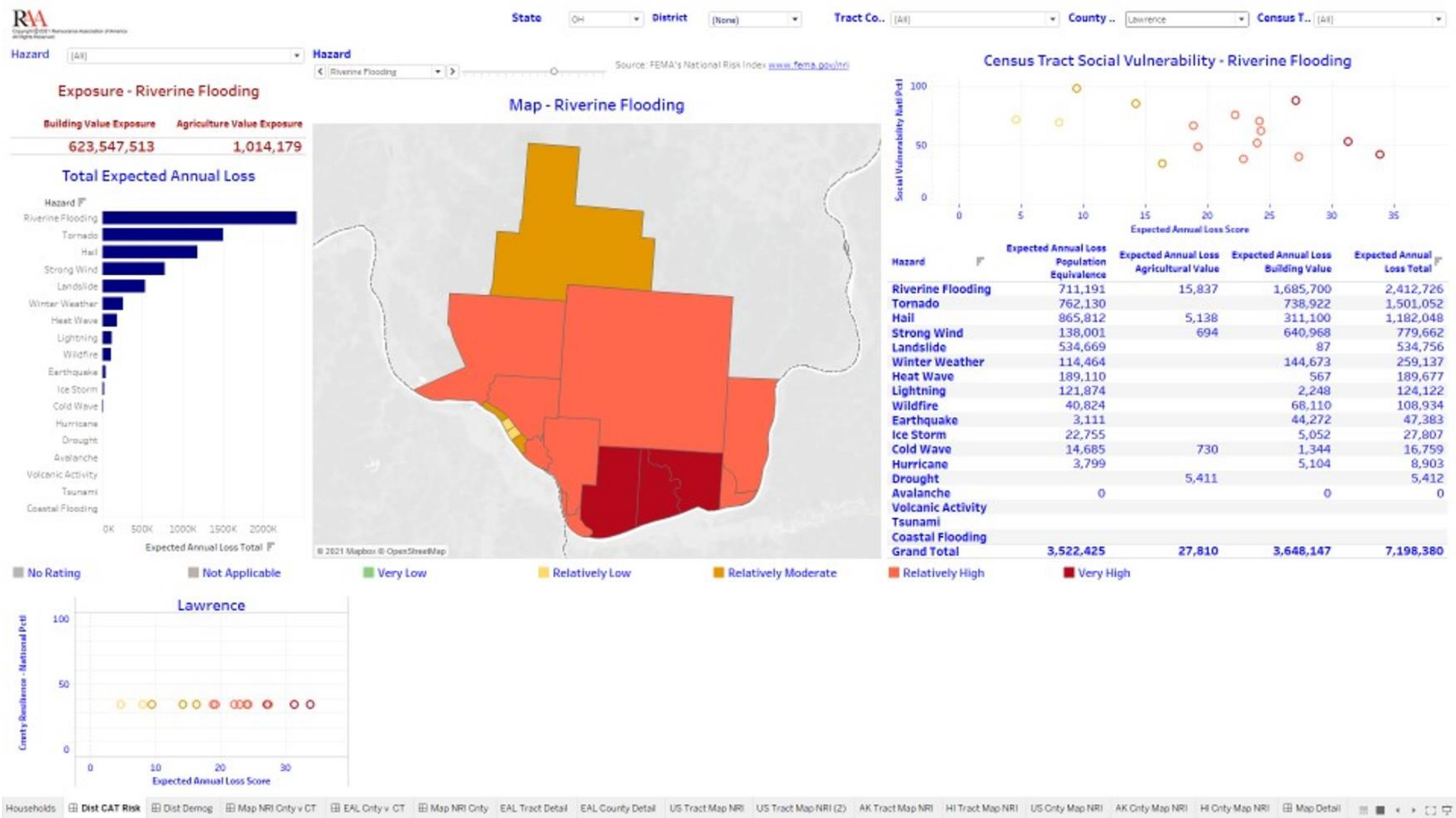
- Support the efforts of RAA members and other private market participants to develop and offer financial products and services using risk-based pricing to assist in managing the financial risk associated with climate change and catastrophic risk. The RAA acknowledges the need to improve the evaluation of future risks associated with climate change as a part of the reinsurance risk assessment and capital management processes.

- At the state and national levels, the RAA will work with policymakers to support legislation to mitigate greenhouse gases and take steps to adapt to climate change through improved preventive measures and public initiatives to address the reduction of risks associated with climate change. These measures include natural hazard mitigation through better land use planning, improved building codes, the use of structurally sound, environmentally friendly building materials, alternative energy sources and other appropriate means.

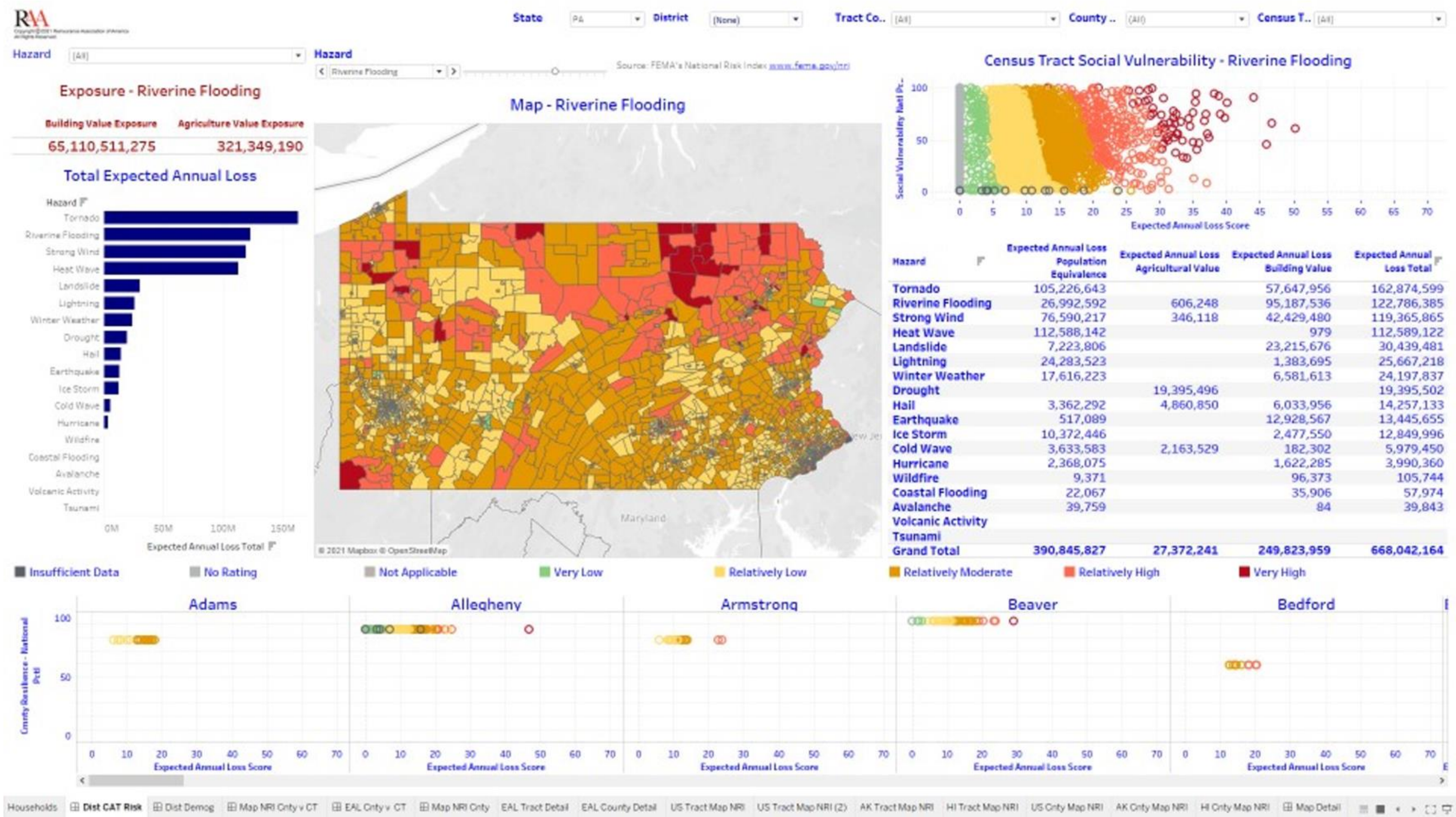
The RAA will also encourage each of its members to assess the impact of their business operations to analyze their contribution to climate change and to evaluate emissions reductions measures and improve their use of every efficient technologies.

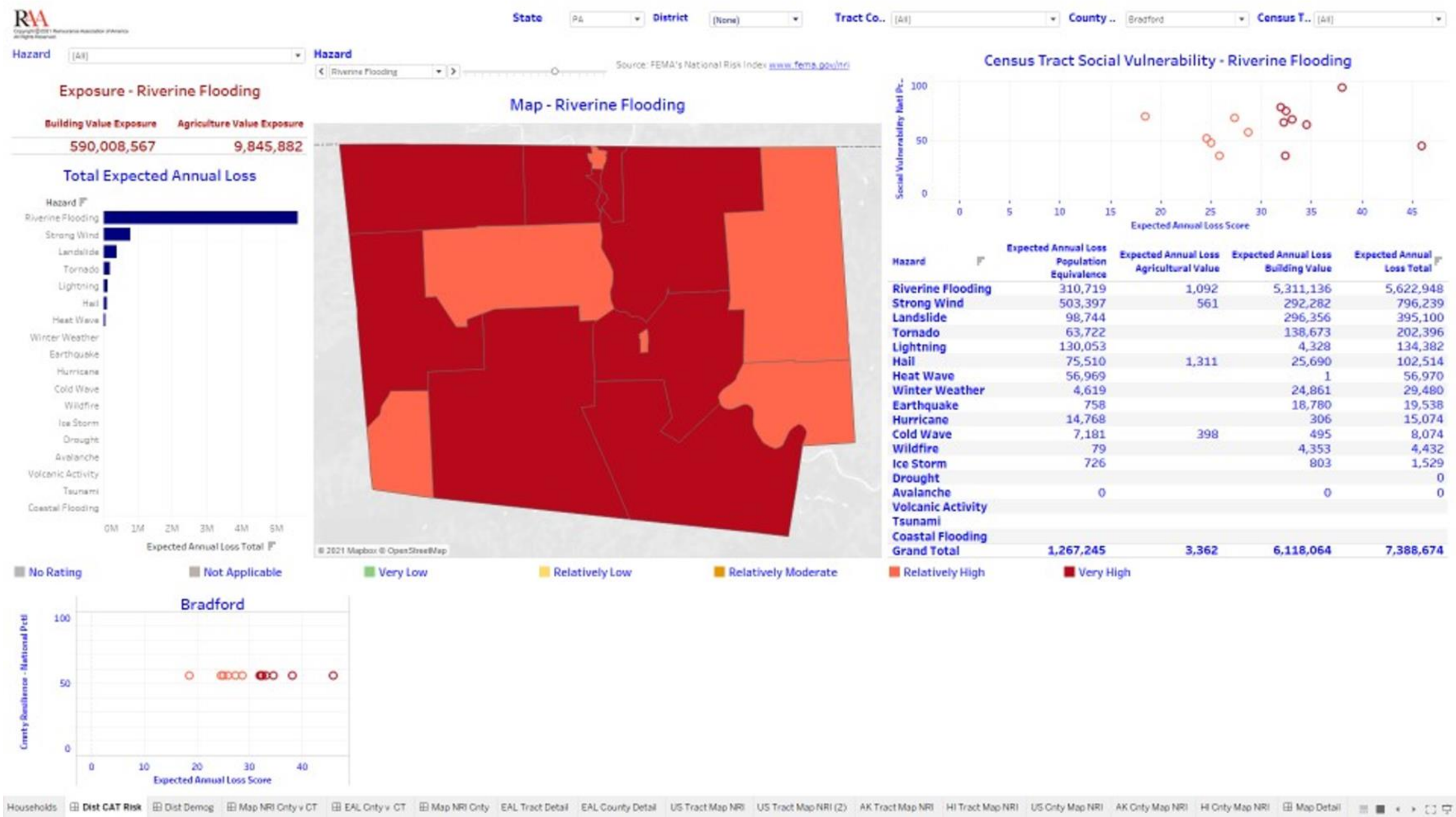
APPENDIX B


Exposure - Riverine Flooding
Building Value Exposure
47,586,389,631
Agriculture Value Exposure
531,043,797
Total Expected Annual Loss
Map - Riverine Flooding
Census Tract Social Vulnerability - Riverine Flooding
Hazard
Expected Annual Loss Population Equivalence
Expected Annual Loss Agricultural Value
Expected Annual Loss Building Value
Expected Annual Loss Total
Strong Wind 51,957,592 2,188,003 116,815,382 170,960,991
Tornado 64,396,000 81,562,388 145,958,388
Hail 17,451,309 2,841,636 113,853,704 134,146,681
Riverine Flooding 29,807,545 3,425,369 69,811,373 103,044,304
Landslide 7,075,696 20,048,175 27,123,872
Winter Weather 10,288,076 15,787,849 26,075,924
Ice Storm 5,616,894 16,735,327 22,352,221
Lightning 18,746,817 1,101,244 19,848,061
Heat Wave 18,796,022 371,071 19,167,093
Earthquake 853,045 15,721,491 16,574,536
Cold Wave 5,055,393 2,797,999 505,929 8,359,349
Drought 3,500,103 3,500,103
Hurricane 316,142 354,026 670,168
Wildfire 105,405 189,461 294,865
Coastal Flooding 0 0 0
Avalanche 0 0 0
Volcanic Activity
Tsunami
Grand Total 230,465,937 14,753,110 452,857,420 698,076,557
Adams
Allen
Ashland
Ashtabula
Athens

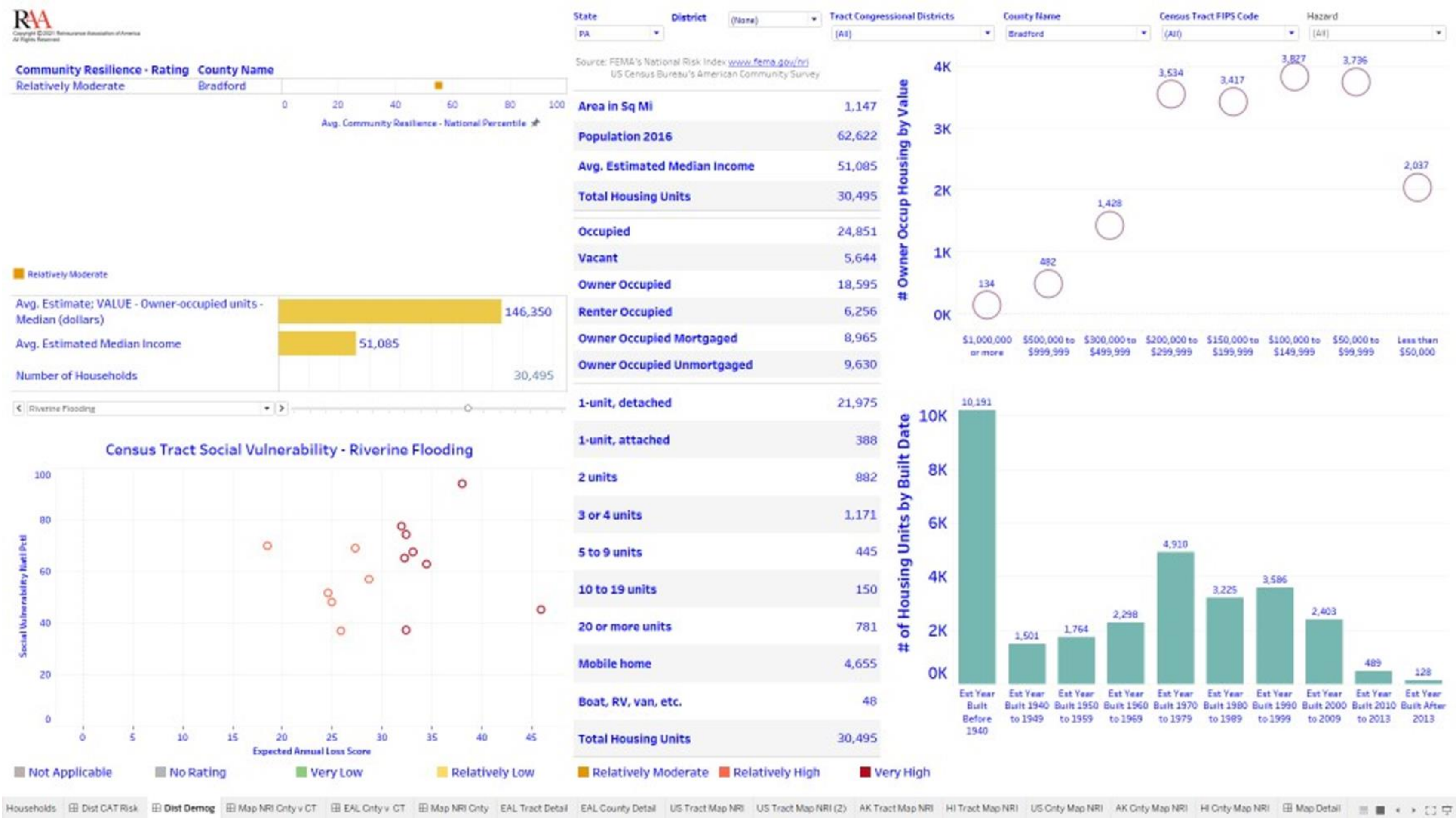

State OH
District (None)
Tract Co.. (All)
County .. Lawrence
Census T.. (All)
Hazard (All)
Hazard Riverine Flooding
Source: FEMA's National Risk Index www.fema.gov/nri
Exposure - Riverine Flooding
Building Value Exposure 623,547,513
Agriculture Value Exposure 1,014,179
Total Expected Annual Loss
Hazard
Riverine Flooding
Tornado
Hail
Strong Wind
Landslide
Winter Weather
Heat Wave
Lightning
Wildfire
Earthquake
Ice Storm
Cold Wave
Hurricane
Drought
Avalanche
Volcanic Activity
Tsunami
Coastal Flooding
0K 500K 1000K 1500K 2000K
Expected Annual Loss Total
Map - Riverine Flooding
© 2021 Mapbox © OpenStreetMap
Census Tract Social Vulnerability - Riverine Flooding
Social Vulnerability Natl Pctl
Expected Annual Loss Score
Hazard | Expected Annual Loss Population Equivalence | Expected Annual Loss Agricultural Value | Expected Annual Loss Building Value | Expected Annual Loss Total
Riverine Flooding | 711,191 | 15,837 | 1,685,700 | 2,412,726
Tornado | 762,130 | | 738,922 | 1,501,052
Hail | 865,812 | 5,138 | 311,100 | 1,182,048
Strong Wind | 138,001 | 694 | 640,968 | 779,662
Landslide | 534,669 | | 87 | 534,756
Winter Weather | 114,464 | | 144,673 | 259,137
Heat Wave | 189,110 | | 567 | 189,677
Lightning | 121,874 | | 2,248 | 124,122
Wildfire | 40,824 | | 68,110 | 108,934
Earthquake | 3,111 | | 44,272 | 47,383
Ice Storm | 22,755 | | 5,052 | 27,807
Cold Wave | 14,685 | 730 | 1,344 | 16,759
Hurricane | 3,799 | | 5,104 | 8,903
Drought | | 5,411 | | 5,412
Avalanche | 0 | | 0 | 0
Volcanic Activity
Tsunami
Coastal Flooding
Grand Total | 3,522,425 | 27,810 | 3,648,147 | 7,198,380
No Rating
Not Applicable
Very Low
Relatively Low
Relatively Moderate
Relatively High
Very High
Lawrence
County Resilience - National Pctl
Expected Annual Loss Score
Households
Dist CAT Risk
Dist Demog
Map NRI Cnty v CT
EAL Cnty v CT
Map NRI Cnty
EAL Tract Detail
EAL County Detail
US Tract Map NRI
US Tract Map NRI (2)
AK Tract Map NRI
HI Tract Map NRI
US Cnty Map NRI
AK Cnty Map NRI
HI Cnty Map NRI
Map Detail


Community Resilience - Rating
County Name
Relatively Moderate
Lawrence
Avg. Community Resilience - National Percentile
Relatively Moderate
Avg. Estimate; VALUE - Owner-occupied units - Median (dollars)
101,731
Avg. Estimated Median Income
42,842
Number of Households
27,501
Riverine Flooding
Census Tract Social Vulnerability - Riverine Flooding
Social Vulnerability Natl Pctl
Expected Annual Loss Score
Not Applicable
No Rating
Very Low
Relatively Low
Relatively Moderate
Relatively High
Very High
State
OH
District
(None)
Tract Congressional Districts
(All)
County Name
Lawrence
Census Tract FIPS Code
(All)
Hazard
(All)
Source: FEMA's National Risk Index www.fema.gov/nri
US Census Bureau's American Community Survey
Area in Sq Mi 453
Population 2016 62,450
Avg. Estimated Median Income 42,842
Total Housing Units 27,501
Occupied 23,731
Vacant 3,770
Owner Occupied 17,036
Renter Occupied 6,695
Owner Occupied Mortgaged 8,236
Owner Occupied Unmortgaged 8,800
1-unit, detached 19,805
1-unit, attached 355
2 units 890
3 or 4 units 818
5 to 9 units 358
10 to 19 units 145
20 or more units 380
Mobile home 4,741
Boat, RV, van, etc. 9
Total Housing Units 27,501
Owner Occup Housing by Value
$1,000,000 or more 88
$500,000 to $999,999 209
$300,000 to $499,999 522
$200,000 to $299,999 1,619
$150,000 to $199,999 2,614
$100,000 to $149,999 3,585
$50,000 to $99,999 5,231
Less than $50,000 3,168
# of Housing Units by Built Date
Est Year Built Before 1940 3,913
Est Year Built 1940 to 1949 1,762
Est Year Built 1950 to 1959 2,994
Est Year Built 1960 to 1969 3,378
Est Year Built 1970 to 1979 4,413
Est Year Built 1980 to 1989 3,117
Est Year Built 1990 to 1999 4,401
Est Year Built 2000 to 2009 2,783
Est Year Built 2010 to 2013 648
Est Year Built After 2013 92
Households
Dist CAT Risk
Dist Demog
Map NRI Cnty v CT
EAL Cnty v CT
Map NRI Cnty
EAL Tract Detail
EAL County Detail
US Tract Map NRI
US Tract Map NRI (2)
AK Tract Map NRI
HI Tract Map NRI
US Cnty Map NRI
AK Cnty Map NRI
HI Cnty Map NRI
Map Detail


State PA District (None) Tract Co.. (All) County .. (All) Census T.. (All)
Hazard (All)
Hazard Riverine Flooding
Source: FEMA's National Risk Index www.fema.gov/nri
Exposure - Riverine Flooding
Building Value Exposure 65,110,511,275
Agriculture Value Exposure 321,349,190
Total Expected Annual Loss
Hazard
Tornado
Riverine Flooding
Strong Wind
Heat Wave
Landslide
Lightning
Winter Weather
Drought
Hail
Earthquake
Ice Storm
Cold Wave
Hurricane
Wildfire
Coastal Flooding
Avalanche
Volcanic Activity
Tsunami
0M 50M 100M 150M
Expected Annual Loss Total
Map - Riverine Flooding
Maryland
© 2021 Mapbox © OpenStreetMap
Census Tract Social Vulnerability - Riverine Flooding
Social Vulnerability Natl Pc..
Expected Annual Loss Score
Hazard | Expected Annual Loss Population Equivalence | Expected Annual Loss Agricultural Value | Expected Annual Loss Building Value | Expected Annual Loss Total
Tornado 105,226,643 57,647,956 162,874,599
Riverine Flooding 26,992,592 606,248 95,187,536 122,786,385
Strong Wind 76,590,217 346,118 42,429,480 119,365,865
Heat Wave 112,588,142 979 112,589,122
Landslide 7,223,806 23,215,676 30,439,481
Lightning 24,283,523 1,383,695 25,667,218
Winter Weather 17,616,223 6,581,613 24,197,837
Drought 19,395,496 19,395,502
Hail 3,362,292 4,860,850 6,033,956 14,257,133
Earthquake 517,089 12,928,567 13,445,655
Ice Storm 10,372,446 2,477,550 12,849,996
Cold Wave 3,633,583 2,163,529 182,302 5,979,450
Hurricane 2,368,075 1,622,285 3,990,360
Wildfire 9,371 96,373 105,744
Coastal Flooding 22,067 35,906 57,974
Avalanche 39,759 84 39,843
Volcanic Activity
Tsunami
Grand Total 390,845,827 27,372,241 249,823,959 668,042,164
Insufficient Data
No Rating
Not Applicable
Very Low
Relatively Low
Relatively Moderate
Relatively High
Very High
Adams
Allegheny
Armstrong
Beaver
Bedford
Cmnty Resilience - National Pctl
Expected Annual Loss Score
Households
Dist CAT Risk
Dist Demog
Map NRI Cnty v CT
EAL Cnty v CT
Map NRI Cnty
EAL Tract Detail
EAL County Detail
US Tract Map NRI
US Tract Map NRI (2)
AK Tract Map NRI
HI Tract Map NRI
US Cnty Map NRI
AK Cnty Map NRI
HI Cnty Map NRI
Map Detail



Hazard	Expected Annual Loss Population Equivalence	Expected Annual Loss Agricultural Value	Expected Annual Loss Building Value	Expected Annual Loss Total
Riverine Flooding	310,719	1,092	5,311,136	5,622,948
Strong Wind	503,397	561	292,282	796,239
Landslide	98,744		296,356	395,100
Tornado	63,722		138,673	202,396
Lightning	130,053		4,328	134,382
Hail	75,510	1,311	25,690	102,514
Heat Wave	56,969		1	56,970
Winter Weather	4,619		24,861	29,480
Earthquake	758		18,780	19,538
Hurricane	14,768		306	15,074
Cold Wave	7,181	398	495	8,074
Wildfire	79		4,353	4,432
Ice Storm	726		803	1,529
Drought				0
Avalanche	0		0	0
Volcanic Activity				
Tsunami				
Coastal Flooding				
Grand Total	1,267,245	3,362	6,118,064	7,388,674



State
PA
District
(None)
Tract Congressional Districts
(All)
County Name
Bradford
Census Tract FIPS Code
(All)
Hazard
(All)
Community Resilience - Rating
County Name
Relatively Moderate
Bradford
Avg. Community Resilience - National Percentile
Relatively Moderate
Avg. Estimate; VALUE - Owner-occupied units - Median (dollars)
146,350
Avg. Estimated Median Income
51,085
Number of Households
30,495
Riverine Flooding
Census Tract Social Vulnerability - Riverine Flooding
Social Vulnerability Natl Pctl
Expected Annual Loss Score
Not Applicable
No Rating
Very Low
Relatively Low
Relatively Moderate
Relatively High
Very High
Source: FEMA's National Risk Index www.fema.gov/nri
US Census Bureau's American Community Survey
Area in Sq Mi 1,147
Population 2016 62,622
Avg. Estimated Median Income 51,085
Total Housing Units 30,495
Occupied 24,851
Vacant 5,644
Owner Occupied 18,595
Renter Occupied 6,256
Owner Occupied Mortgaged 8,965
Owner Occupied Unmortgaged 9,630
1-unit, detached 21,975
1-unit, attached 388
2 units 882
3 or 4 units 1,171
5 to 9 units 445
10 to 19 units 150
20 or more units 781
Mobile home 4,655
Boat, RV, van, etc. 48
Total Housing Units 30,495
Owner Occup Housing by Value
$1,000,000 or more 134
$500,000 to $999,999 482
$300,000 to $499,999 1,428
$200,000 to $299,999 3,534
$150,000 to $199,999 3,417
$100,000 to $149,999 3,827
$50,000 to $99,999 3,736
Less than $50,000 2,037
# of Housing Units by Built Date
Est Year Built Before 1940 10,191
Est Year Built 1940 to 1949 1,501
Est Year Built 1950 to 1959 1,764
Est Year Built 1960 to 1969 2,298
Est Year Built 1970 to 1979 4,910
Est Year Built 1980 to 1989 3,225
Est Year Built 1990 to 1999 3,586
Est Year Built 2000 to 2009 2,403
Est Year Built 2010 to 2013 489
Est Year Built After 2013 128
Households
Dist CAT Risk
Dist Demog
Map NRI Cnty v CT
EAL Cnty v CT
Map NRI Cnty
EAL Tract Detail
EAL County Detail
US Tract Map NRI
US Tract Map NRI (2)
AK Tract Map NRI
HI Tract Map NRI
US Cnty Map NRI
AK Cnty Map NRI
HI Cnty Map NRI
Map Detail

APPENDIX C

NATIONAL SUPPORT FOR THE STATE FLOOD MITIGATION REVOLVING FUND:

as of March 8, 2019

Alliance for National and Community Resilience
American Conservation Coalition
American Farmland Trust
American Flood Coalition
American Institute of Architects
American Planning Association
American Public Works Association
American Rivers
American Society of Civil Engineers
American Society of Landscape Architects
Association of State Floodplain Managers
Consumer Mortgage Coalition
Ecological Restoration Business Association
Enterprise Community Partners
Environmental and Energy Study Institute
Insurance Institute for Business & Home Safety
International Code Council
National Association of Mutual Insurance Companies
National Ground Water Association
National Hazard Mitigation Association
National Institute of Building Sciences
Natural Resources Defense Council
Pinchot Institute
Property Casualty Insurance Association of America
Reinsurance Association of America
Smart Home America
Southern Environmental Law Center
St. Bernard Project
The Main Street Alliance
The Nature Conservancy
The Pew Charitable Trusts
Union of Concerned Scientists
U.S. Resiliency Council

THE PROBLEM

Flooding is the costliest and most common natural disaster in the U.S., claiming lives, damaging households and businesses, and straining government agencies that provide flood response and relief. Since 2000, flood-related disasters have cost over $750 billion. The federal government and states need to pursue more investment before disasters strike to help protect our communities and lower the cost burden on American taxpayers in future floods.

THE VALUE OF FLOOD MITIGATION

According to a 2018 report by the National Institute of Building Sciences, for every dollar spent on hazard mitigation, the nation saves $6. In the case of riverine flood, projects involving acquisition or demolition of flood-prone buildings save $7 for every dollar invested. The benefits come largely from avoided property damage, casualties associated with storms, and savings when businesses and communities quickly return to normal following a flood event.

Despite these findings, the federal approach to flood disasters continues to focus on response and recovery while underinvesting in preparation. In too many instances, infrastructure or homes are rebuilt as they were, only to flood again. Investments in pre-disaster mitigation have historically failed to meet demand, perpetuating this cycle of loss and repair. Although the federal government spent $277.6 billion from 2005 to 2014 on overall disaster assistance, the Federal Emergency Management Agency (FEMA) has spent just $600 million on its Pre-Disaster Mitigation grant program over the same time period.

NEEDED: A NEW FEDERAL-STATE PARTNERSHIP

The federal government can break the cycle of paying to repeatedly rebuild by increasing investments *before* disasters strike. FEMA and other federal agencies, however, cannot solve this problem alone. Localities and states are key decision-makers for policies that affect flood risk, with clear authorities to guide new development away from hazardous areas and enforce building standards that will protect lives and property.

A cost-sharing partnership, capitalized, in part, with federal monies administered by states, and tailored to unique local needs, could provide a long-term, self-sustaining source of financing for a wide range of projects. Since its inception in 1987, for example, the Clean Water State Revolving Fund has leveraged $41 billion in federal investments and 7.6 billion in corresponding state contributions for $118 billion in high priority water quality projects. The revolving loan fund model, also used successfully for drinking water treatment facilities, energy efficiency projects, and economic development, could address the nation's flood preparation needs as well.

THE SOLUTION

Legislation introduced in Congress for a State Flood Mitigation Revolving Fund program would create a new partnership with states to provide low-interest loans for projects that save lives and dollars.

With federal backing and local engagement, this legislation would allow each state to select and implement the types of mitigation projects best suited to the unique flood hazards it faces. Projects supported by the individual state revolving funds could include elevations and flood proofing of public buildings, businesses, and residences; improvements to stormwater management; assistance to local residents who wish to move out of harm's way; or converting frequently flooded areas into open space amenities.

With billions of dollars and countless lives at risk, and following yet another year of record-breaking storms and floods, now is the time for Congress to act.

MORE SUPPORT FOR THE STATE FLOOD MITIGATION REVOLVING FUND:

AZ
Nogales-Santa Cruz County Chamber of Commerce
Sedona Chamber of Commerce & Tourism Bureau

CA
American Planning Association – California Chapter
American Planning Association – San Diego Chapter
California Coastkeepers Alliance
California Nevada Cement Association
City of Roseville
City of Santa Maria
Costa Mesa Chamber of Commerce
Friends of the LA River
Greater Irvine Chamber of Commerce
Greater Los Angeles African American Chamber of Commerce
Huntington Beach Chamber of Commerce
Klamath Riverkeeper
Los Angeles Area Chamber of Commerce
Los Angeles Waterkeeper
North Orange County Chamber of Commerce
Orange County Business Council
Redondo Beach Chamber of Commerce
San Francisco Chamber of Commerce
Santa Barbara Chamber of Commerce
Santa Cruz Area Chamber of Commerce
Sequoia Riverlands Trust
Silicon Valley Leadership Group
Torrance Area Chamber of Commerce

CO
American Planning Association – Colorado Chapter
Colorado Municipal League
Estes Park Economic Development Council
Special Districts Association of Colorado
Urban Drainage and Flood Control District

DE
Delaware Nature Society

FL
Broward County
Florida Floodplain Managers Association

GA
Altamaha Riverkeeper
American Planning Association – Georgia Chapter
Center for a Sustainable Coast
Coosa River Basin Initiative
EarthShare Georgia
Georgia Association of Floodplain Management
Humane Society for Greater Savannah
LifeLine Animal Project
St. Marys Riverkeeper
Trees Atlanta

IA
Food Bank of Iowa
Iowa Floodplain and Stormwater Management Association
Iowa Ground Water Association
Iowa State Association of Counties
Quad Cities Waterkeeper

ID
Association of Idaho Cities
American Planning Association – Idaho Chapter

IL
Association of Illinois Soil and Water Conservation Districts
Illinois Groundwater Association

IN
Indiana Dunes Tourism

MN
Association of Minnesota Emergency Managers
Conservation Minnesota
Minnesota Association of Floodplain Managers
Minnesota Coalition for the Homeless
Minnesota Section of the American Society of Civil Engineers

MO
Great Rivers Greenway
Great Rivers Habitat Alliance
Missouri Confluence Waterkeeper

MS
Tishomingo County Tourism Council

NC
MountainTrue
North Carolina Association of Floodplain Managers
North Carolina Coastal Federation
North Carolina Conservation Network
North Carolina Housing Coalition

NJ
Environment New Jersey
New Jersey Future
Pinelands Preservation Alliance
South Jersey Land & Water Trust
The Conservancy of New Jersey

NY
Cayuga County Chamber of Commerce
Cayuga County Economic Development Agency
Center for NYC Neighborhoods
Gowanus Canal Conservancy
Greater Rochester Chamber of Commerce
Hudson River Sloop Clearwater, Inc.
Neighborhood Preservation Coalition of New York State
New York Riverkeeper
New York State Rural Housing Coalition
Niagara USA Chamber of Commerce
Orleans County Chamber of Commerce
Orleans Economic Development Agency
Regional Plan Association
Resilient Red Hook
The Bronx River Alliance

OH
Brecksville Chamber of Commerce
Chamber of Commerce in Broadview Heights
Green Area Chamber of Commerce
Tallmadge Chamber of Commerce

PA
10,000 Friends of Pennsylvania
Central PA Alliance for Response
Humane PA
PennFuture
Pennsylvania Association of State Floodplain Managers
Schuylkill Headwaters Association, Inc.

SC
Coastal Conservation League
Municipal Association of South Carolina
South Carolina Association of Counties
South Carolina Insurance Association
The Nature Conservancy of South Carolina

TN
Greater Nashville Regional Council
Greenspaces Chattanooga
Nashville Civic Design Center
North Chickamauga Creek Conservancy
Tennessee Association of Floodplain Managers
Tennessee Development District Association
Tennessee Renewable Energy and Economic Development Council
Tennessee Small Business Alliance
The Housing Fund
Upper Cumberland Development District
Vanderbilt Engineering Center for Transportation and Operational Resiliency
Walk Bike Nashville

TX
Bay Area Houston Economic Partnership
Concerned Citizens of Texas
Cypress Creek Flood Prevention
Houston Northwest Chamber of Commerce
Lake Travis Fire Rescue
Resource Environmental Solutions, LLC
West Houston Association
West Isle Property Owners Association

UT
St. George Chamber of Commerce

WI
American Planning Association – Wisconsin Chapter
Bad River Band of Lake Superior Chippewa
Bay-Lake Regional Planning Commission
Eau Claire Area School District=
Gathering Waters: Wisconsin's Alliance for Land Trusts
League of Wisconsin Municipalities
Milwaukee Riverkeeper
St. Croix River Association
Superior Rivers Watershed Association
The Association of Wisconsin Regional Planning Commissions
The Wisconsin Land and Water Conservation Association
Wisconsin Counties Association
Wisconsin EMS Association