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The Dangers of Floods and What Donors Can Do

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Overview

Flooding is one of the most common and destructive disasters. Loss of life and property caused by flooding surpasses any other type of natural hazard (Homeland Security, 2024). Understanding the different types of floods and the associated adaptation strategies is crucial for effective disaster management and recovery. There are three primary types of flooding: fluvial, pluvial, and coastal. Fluvial floods occur when excessive rainfall or snowmelt exceeds a natural flood basin's carrying capacity, causing overflow and severe regional damage (Tanaka et al., 2020). Pluvial floods often occur in cities where the drainage system cannot handle the heavy rainfall (Tanaka et al., 2020). Coastal floods are caused by storm surges, high tides, or tsunamis, predominantly affecting coastal regions (Walls et al., 2023).

The Pew Charitable Trust synthesized extensive data on flood frequency and found that one or more harm-causing floods occurs somewhere in the US in at least eight out of every ten days (Tompkins & Watts, 2022). Flood modeling and prediction is complex and floods are typically compound events where inundation arises from interrelated drivers involving more than one type of flood. Scientific research shows us that more people and communities are susceptible to all types of flooding than ever before (Wright et al., 2019). This is due to both natural and human-caused climate factors. Anthropogenic actions such as trends in human migration and water management infrastructure also increase flood

risks. According to the Federal Emergency Management Agency (FEMA), fluvial flooding, typically in the form of riverbank overflows or flash flooding from high-volume rain, is the most common type of flooding (Walls et al., 2023), and leaders in every community throughout the United States should make an effort to understand the reality of their own local risk, (see resources below). At the same time, the accelerating incidence of coastal flooding attributable to sea level rise and global warming, is rapidly becoming a leading flood concern (Spiegel, 2022). Over seventy years of data collected from 43 dispersed locations throughout all US coastlines shows that coastal floods are on average, at least five times more common today than they were in the 1950's (Walls et al. 2023), with most locations experiencing six to nine flood events per year (Environmental Protection Agency, 2024).

Flood events are increasing overall - Extreme rain events and sea level rise combined with non-environmental factors, such as expanded development in flood prone areas, have led to significantly higher likelihood of both large and small flood disasters throughout the world. For example, according to the National Centers for Environmental Information (NCEI), in every region of the U.S. the number of billion-dollar flood disaster events per year shows steady increase from an average of fewer than one per year in the 1980's to four per year in 2023. Over this same period annual costs of flooding disasters in the U.S. have risen from an average of \$5 billion per year through the 1980's to over \$24.4 billion in 2019 (Smith, 2023; NOAA National Centers for Environmental Information, 2024). These are assumed to be low estimates as this data looks at larger floods only and does not include other costs to society such as impacts of supply chain and business interruption, and physical and mental health care costs.

Preparedness, adaptation, and resilience are crucial approaches to flood management because floods occur when natural and manmade water systems such as rivers, canals and levees exceed planned capacity. Effective flood prevention requires informed stormwater management systems that can adequately adapt to foreseeable maximums. This requires infrastructure such as rain gardens, water channels, and permeable pavements that reduce stormwater runoff to prevent flooding and erosion in urban areas (Qin, 2020). In addition, clear riverbeds and floodplains can ensure water flows unobstructed in heavy precipitation events, and well-maintained levees and canals prevent overflow by diverting excess water from rivers to keep the communities safe (Tourment et al., 2016). Managed Aquifer Recharge reduces flood risks by allowing space for seasonal flooding, while also reducing droughts by naturally replenishing groundwater supplies during rainy periods (California Department of Water Resources, 2022). The emergence of increasingly accurate data to predict flood risk can be combined with proper zoning, planning, and resilient infrastructure to effectively mitigate flooding.

Key Facts

Coastal and inland impacts - The total picture of increased flood risk impacts every part of the United States. While data shows overall flood risk is still two to three times higher in coastal communities, non-coastal areas are also experiencing increased flood risk. Indeed, over the past two decades flash floods in the southwest and central U.S have increased significantly (+10.5% and +8.6% respectively) (Li et al, 2022). In addition, a 2015 study of flooding (from 1962 to 2011) shows "widespread increasing frequency of flood

events," with 34% of the 774 Central US weather reporting stations documenting an increasing trend and only 9% reporting a decrease (Mallakpour & Villarini, Nature Climate Change, 2015). Highlighting the social dimension of flood risk, analysis by Ash & Tawil (CBO, 2023) finds lower-income communities disproportionately affected. This may be due to factors like city development zoning choices, regional housing costs and lack of investment in upkeep of flood control systems.

When floods strike, the immediate consequences are displacement, and property and infrastructure damage. Housing quickly becomes a pressing concern, as many find themselves suddenly homeless, needing immediate shelter and long-term housing solutions (Wei et al., 2020). People with the least social capital, that is people without emergency funds, or who lack access to the assistance of friends and relatives are most likely to require immediate emergency housing assistance. Flood destruction usually impacts essential infrastructure such as roads and bridges, disrupting transportation and daily life and making emergency responses more difficult (Kasmalkar et al., 2020). Moreover, health services are stretched to the limits during floods. The risk of waterborne diseases escalates, necessitating prompt and adequate medical responses to prevent disease outbreaks and ensure public safety (Twiddy et al., 2022). In addition to the direct impact, the psychological aftermath of flooding can be profound, with many individuals experiencing trauma from loss and displacement. Therefore, psychological support is crucial to help individuals recover from traumatic events (Stanke et al., 2012). We shall see an example of this below, in the response to flooding in Germany in 2021.

The coordination among various players in disaster response is critical for effective flood management. Multiple sectors, including federal and local governments and non-

governmental organizations, are deeply involved in immediate responses and long-term recovery efforts. Federal and local government bodies, such as FEMA, (which depending on the level of disaster declaration can provide funding for Public Assistance and/or Individual Assistance), the National Flood Insurance Program, and local emergency management offices, are crucial in managing these disasters. Nonprofits such as the Red Cross and other Voluntary Organizations Active in Disaster (VOADs) play pivotal roles in immediate relief, emergency shelter, healthcare and basic needs.

For philanthropists and donors entering the field, it is essential to understand the multifaceted nature of flood-related needs and the various stakeholders involved. Effective philanthropy should fill gaps unaddressed by federal and local government programs, focusing on immediate disaster relief and enhancing long-term community resilience and emergency management capabilities. Consequently, avoiding duplication of services and understanding the specific needs of affected communities can make donors' contributions more impactful. Finally, while immediate relief is crucial, investing in long-term recovery and resilience is imperative. Supporting infrastructure rebuilding and economic recovery is vital to restoring and enhancing community resilience against future floods.

How to Help

In a flood disaster, nonprofits and donors should enter the field as soon as possible but **coordinate** with official flood response leaders, such as local disaster response organizations, Red Cross, or FEMA, while also looking for spontaneous strategies and effective actions by emergent groups.

Flood disasters can disrupt communications and transportation infrastructure

separating victims from their communities, homes, and belongings. Donors and nonprofits should aim for supporting **accessible one-stop relief and assistance centers** that provide coordination among multiple service providers and locate these where victims are most able to reach them.

After rescues, emergency **housing is the most immediate need** in a flood. Donors and nonprofits should assess the ways housing assistance might be provided by major response organizations such as FEMA and the Red Cross, and identify gaps in either short or long-term solutions. Funds for rebuilding housing should incentivize design for mitigating the impact of future flooding.

Unrestricted cash contributions are usually best. Nonprofit, voluntary organizations responding to disasters benefit from funding and contributions that can be deployed with flexibility and efficiency. Check with the recipient to be sure the contribution is needed.

Reliable information is crucial. Cities and counties have first response disaster communications systems that link with outside disaster responders such as FEMA and the Red Cross. Look for trusted local flood response leaders to help identify key nonprofits and to coordinate action and contributions. In blue sky times, nonprofits should prepare their own disaster communications strategies and core messaging, and donors can support the development of resilient regional disaster communications systems and partnerships.

The type of and scale of flooding will impact official flood declarations and will also determine the kinds of city, county, state, and federal aid to be provided. For example, federal disaster declarations will trigger FEMA aid which can include Public Assistance (PA), and/or Individual Assistance (IA), among other programs. Additional federal

assistance may be provided in the form of Small Business Administration (SBA) loans. As disaster response unfolds, donors should become aware of the activation of specific government assistance programs and focus on **needs that are not met through these programs.**

Floods can have **secondary effects** such as risk for future inundation from snowmelt, levee or dam breaks, mudslides, or seasonal lakes. Effective flood response takes into account strategies that can mitigate follow-on impacts. Some flood damage may take time to appear.

Collaboration is imperative in disaster response. Pre-existing strong relationships among funders and among voluntary organizations will improve relief and response efforts. In blue-sky times nonprofits will focus on their daily missions and may struggle to allocate resources to prepare for low-likelihood events. Donors can increase disaster response efficiency and resilience by funding initiatives that help nonprofits prepare. Supporting the formation of pre-disaster connections and structuring planning efforts among voluntary organizations pays off by improving response capabilities and reducing duplication and inefficiency in a disaster.

All types of media are used for **soliciting funds in disasters**, but the timeframe for maximum public attention is shorter than the need. Nonprofits must act quickly with clear messaging to gain donor attention. Nonprofits should prepare basic disaster communication plans and content ahead of time and attend to the readiness of their donor and stakeholder databases for urgent messaging.

In a flood, disaster donors should **reach out to their existing grant awardees** to learn about immediate needs and challenges. Prior grant provisions may warrant changes

to address emergency conditions and new priorities.

Nonprofits must ensure that all **contributions are used in line with their commitments**, messaging, and donor expectations. Public scrutiny of nonprofit performance is higher in times of disaster. Donors should clearly communicate the intent and purpose of their contributions and be sure their wishes are aligned with the recipient organization's priority needs.

Flood response experiences can help **donors & nonprofits learn and improve their preparedness**, partnerships, and social capital for the long-term. Following a disaster, donors should note voluntary organizations with demonstrated skills, community expertise, and connections that were able to be most helpful in a disaster and support. Nonprofits and donors can learn from adaptations and innovations that were deployed in a flood emergency and invest in preparedness strategies for the future.

What funders are doing. What should philanthropy fund?

Analysis of a number of devastating floods in California, Texas and Germany within the past ten years, provides examples of successful nonprofit initiatives in the response, recovery and prevention phases of flood disasters.

Fund psychosocial help - In July 2021, sudden torrential flooding in western Germany's Ahr river communities created one of the worst disasters in that nation's recent history. Local authorities struggled to respond as roads, railways, bridges and homes were washed away. In the state of Rhineland-Palatinate alone, more than 135 people were killed (Witting, 2023). The event's suddenness and scale motivated action from the government and spontaneous volunteers. In addition Malteser International, a German-based

international humanitarian aid and relief organization sprang into action. Malteser had previously responded to a flood disaster in Germany in 2013, and understood that flood victims and aid workers needed psychosocial support after experiencing and witnessing the trauma of human loss and physical devastation (Malteser International, Order of Malta Worldwide Relief, 2023). All support needs are further complicated when disasters trigger movement of people. Volunteer aid workers will return to their homes out of the area. In this case, lasting destruction of roads, infrastructure, and the economy meant that many survivors also moved far away from the disaster site and lost connection to needed resources (Witting 2023). This created a need to track and provide mental health services and other supportive referrals for those who left the area. During the Ahr Valley flood recovery phase in Germany, Malteser International was in the ideal position because of their existing operations in Germany and previous flood relief experiences (Order of Malta Worldwide Relief, 2023). They led the establishment of one-stop-shop assistance centers, both in the impacted area and online. They quickly created more than 200 short YouTube videos and set up a website where all the relevant up-to-date support information could be viewed, including information about access to psychological support. In person and online offices were staffed by volunteers who provided comprehensive information assistance, ranging from connections to architects, banks, lawyers, regional and state governments. Adding psychological support to practical flood disaster assistance helped normalize this important form of aid and ensured that this support became accessible to those who left the area and for whom displacement from home was an added trauma.

Fund well-positioned local nonprofits - In some cases, the ideal lead organization to receive donor support is already active and well-positioned within the impacted community.

Even in cases where the 'organizing authority' is statutorily established, specialized community organizations can emerge as the lynchpin in the flood disaster service provision most relevant to a community. One example is the Chicano Federation, which ordinarily operates low-cost housing and a Community Resource Center in San Diego - helping low income families and individuals access assistance and care from various nonprofit and government service providers. Its service area and many of its low-cost housing residents were directly impacted by flooding in San Diego in January of 2024. Fortunately, the Chicano Federation's proven everyday expertise in community resource navigation made it an ideal and highly-effective recipient of 2022 flood disaster private foundation funding.

The Chicano Federation owns five large low-income apartment buildings that house over 600 residents. In the January 2024 flood, 25 of the Federation's own low-income housing units were destroyed leaving 70 of its residents without homes. Because of the Chicano Federation's existing connections and reputation in the community, the San Diego Foundation and the James M. Cox Foundation provided \$125,000 in immediate funding to help pay for emergency housing and basic needs. Many residents' vehicles and livelihoods were destroyed. The Chicano Federation used these funds to assist its own displaced residents and strengthen its ability to act as a resource to the wider impacted community, including providing guidance for applying for Red Cross and FEMA disaster funding. As disaster relief and recovery unfolded, the Chicano Federation became a hub for establishing access to government disaster assistance to the families it served and for the wider San Diego community most impacted by the floods.

Adapt existing services to flood response needs - Showers of Blessings is a community-based nonprofit, volunteer organization in Santa Barbara, California. During the

2022/23 floods, this organization again demonstrated that its services, normally aimed at providing access to showers and hygiene supplies to the local homeless population, could be expanded to serve the victims of the flood disaster. Showers of Blessing benefited from philanthropic funders who recognized that the organization was uniquely well positioned to expand its usual mission to meet urgent flood disaster needs. During the 2022/23 flood disaster period, and in other instances of disaster such as wildfires, these donors allow Showers of Blessings to pivot and collaborate with organizations like the Red Cross and city and county disaster responders, providing showers and related aid to flood victims, first responders, and others suffering emergency disaster impacts. In one example, the Natalie Orfalea Foundation awarded Showers of Blessings with a gift of \$40,000 in 2021 to fund site-specific shower services for homeless persons for one year (The Santa Barbara Independent, 2021). After witnessing the flood response, the foundation posted the following insight on their website, "Disasters are largely out of our control, however, how a community prepares for disasters isn't. We believe that communities are only as strong as their efforts to prevent when possible, and to respond quickly and effectively in the midst of disasters" (Natalie Orfalea Foundation Website, 2024, Community Building). Showers of Blessings Executive Director, John Tamiazzo, remarked in a personal interview that he appreciates funders who understand that his organization must be able to act quickly or modify operations to meet sudden new needs. He noted that the Covid-19 pandemic created the most significant sudden challenges the organization had experienced and that this led to strengthening close working relationships with all local essential service providers, a key to their effectiveness in accomplishing both their everyday mission and their ability to respond to disasters (Tamiazzo, 2024).

Fund demonstration projects by smaller nonprofits to influence government

policy and spending on resilience - Donors can influence innovation in flood response and resilience by supporting risk taking in search of original and successful strategies that are initially developed on a smaller scale by creative local nonprofit organizations. After the Winter 2022/23.

California Flood Disaster, the state of California accelerated the purchase and set-aside of land for seasonal flood inundation and aquifer replenishment. This approach to flood resilience was demonstrated over the previous decades by donors and local nonprofits in the California Central Valley, such as River Partners (River Partners, 2024).

For funders that are in the advocacy space - The time immediately after a disaster is a good moment to raise awareness for many causes that might otherwise go unnoticed. Low likelihood, but high-impact disaster events can help communities understand the value of investing in prevention and resilience. Research suggests that disasters influence voter attitudes primarily in the shorter-term aftermath and chiefly in the local areas that were immediately impacted (Hilbig & Riaz, 2024). Organizations that help educate the wider community about risk can gain a greater spotlight after a disaster. They can invest in advocacy and public education to amplify what would otherwise be a shorter-term and more local understanding of a potential disaster's impact. The flood in Germany occurred two months before a federal election. Research into changes in voter attitudes showed that about one million voters were persuaded to support the Green Party because of efforts to renew flood risk awareness following the disaster, and that party's platform of addressing climate change (Hilbig & Riaz, 2024).

Support data and flood prediction - By supporting data collection and analysis of

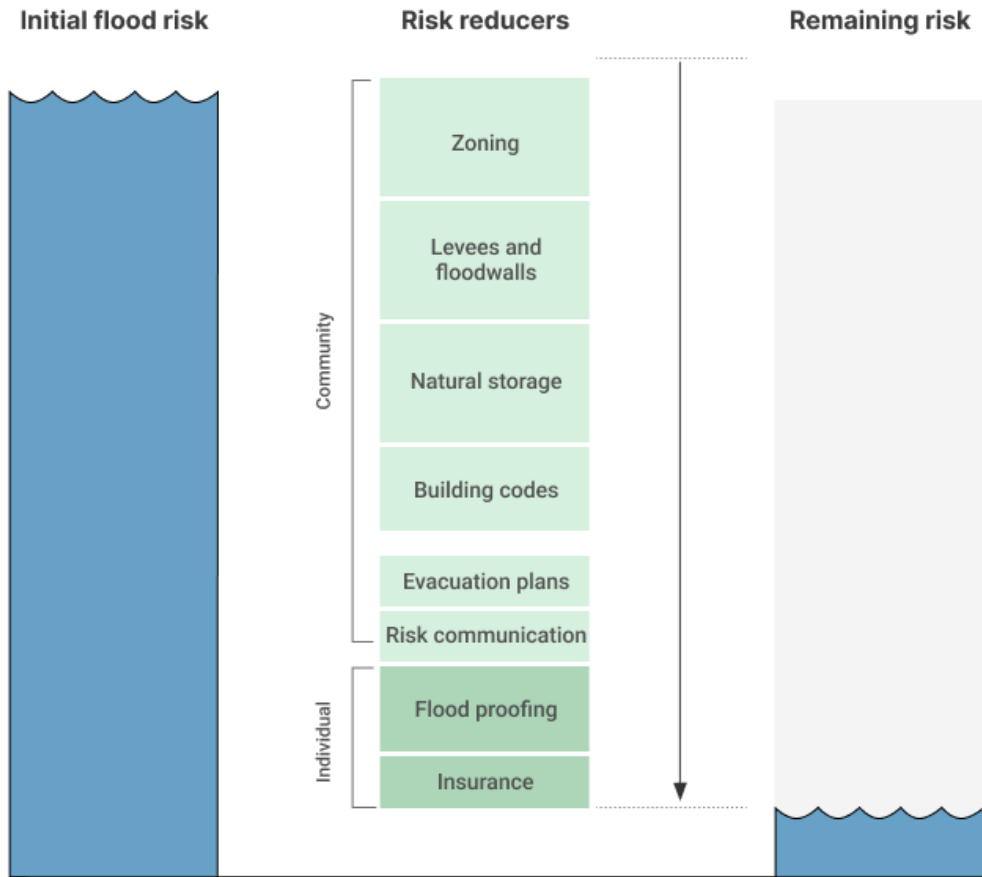
extreme rain patterns and flood disaster predictions, philanthropists can empower communities to learn and avoid future flood harms. In 2016 floods in southeast Texas, public awareness and early-warning systems were key to saving lives and reducing some of the potential harms of this major disaster. Since that date other floods have occurred in this same region. Hurricane Harvey inundated Southeast Texas in 2017, and major flooding occurred again in May 2024. This illustrates how communities must increase their sustainable ability to cope with repeated flood risk. In July 2023, the Texas Tribune reported on the culmination of scientific research that showed that one in five Texans, or 6 million people, live in a floodplain with a documented significant and increasing probability of flooding (Douglas, 2023).

Enhanced early warning systems and infrastructure upgrades that were initiated following the 2016 floods, must continue and be combined with robust data analysis of weather patterns and predictive information about the areas most at risk for flooding. This can lead to more effective resource allocation during disaster response and importantly, it should help municipalities prioritize mitigation strategies to not just survive floods, but rebuild with sustainability in mind, including moving development to areas of lower flood risk as well as adopting strategic infrastructure improvements to make the region more resilient in the face of future threats. When reliable flood prediction data is made even more accessible and ubiquitous to the general public, societies can make better decisions for flood harm prevention and investment in protective infrastructure can win political support. In addition to FEMA, there are a number of nonprofit and for-profit organizations that provide increasingly accurate flood risk data that take into account scientific predictive modeling for increased extreme rain events. Texas authorities currently broadcast flood prediction

warnings, and hurricane preparedness is a part of major government education efforts at the start of hurricane season each spring. With private funding, local nonprofits with cultural expertise and community connections can be an important force for additionally sharing this information to educate; help individuals in communities make better decisions with the understanding of their specific risks; motivate investment in increased preparedness; and avoid development in flood risk zones. See the *Further Reading* section below for organizations and resources that provide flood risk education content and predictive flood data.

Key Takeaways - Identify and reduce flood risks.

- While it is critical to support needs during the immediate aftermath of a disaster, risk reduction planning reduces the harm and expense of flooding events. Studies by the National Institute of Building Sciences show that every \$1 spent on prevention saves \$7 in relief and recovery costs (National Institute of Building Sciences, 2020).
- Sea level rise and the increase in intense rain events mean the incidence of flooding is growing in all communities. Risk reduction efforts will not eliminate all chances of flooding, but effective solutions target the factors that contribute most to harmful floods. Moreover, a synthesis of national historic flood data by the First Street Foundation shows the relative effectiveness and potential impact of the most important risk reduction measures.



Rectangles are proportional to risk reduction

(Risk Factor, 2023, <https://1/riskfactor.com/solutions/floods>).

This information leads us to the following recommendations:

1. Nonprofits and donors can advocate for local, state and federal policies that support geographic and structural adaptations and key risk-reducers. As shown in the graphic above these are:
 - a. appropriate zoning that takes into account the location of historic flood plains and infrastructure adaptations such as levees and flood walls,
 - b. allow space for natural water storage by seasonal inundation and aquifer recharge,

- c. enacting building codes that support resilience community planning should be designed to allow for increased seasonal inundations.
2. Nonprofits and donors can support housing development policies that do not place lower income citizens in harm's way.
3. Individual efforts to mitigate flood damage risk is important. Donors and funders should
 - a. take on the role of supporting flood prevention education and preparedness and promote the dissemination of useful content.
 - b. Funds for rebuilding communities and housing should incentivize residents to support design that resists future flooding.
4. On-going preparedness for coordinated flood response should be a component of routine collaboration and planning amongst regional nonprofits.
 - a. It can be very useful to lay the groundwork for good cooperation during the so-called "blue sky" period.
 - b. Philanthropy can use their convening power to arrange workshops with local nonprofits and relevant authorities to work on the creation (or update) of regional and organization-specific preparedness plans, or disaster playbooks.
5. Lower income individuals and communities with higher risk and less access to social capital will be disproportionately negatively impacted by floods. Philanthropic assistance in these communities can collaborate with trusted local nonprofits to meet unique unmet needs.

Further Reading & Resources:

FEMA Flood risk maps: <https://www.fema.gov/flood-maps>

FEMA's website provides comprehensive flood disaster information and resources including map tools that help individuals and communities know which areas have the highest flood risk.

- "Floods are unpredictable. Because flood risk is always changing, communities use tools to understand their risk and take actions to protect their families, homes and businesses" (FEMA, 2024).

FEMA High Water Mark Initiative:

<https://www.fema.gov/flood-maps/products-tools/high-water-mark-initiative>

Builds support for the installation of High Water Mark signs at prominent locations along waterfronts or other flood-prone areas.

- "The High Water Mark program, funded by the Federal Emergency Management Agency (FEMA), seeks to build awareness of flood risk in coastal communities around the country".

First Street: <https://firststreet.org> our-mission

First Street is a research and technology company that works to connect climate change to financial risk. First Street uses insurance data analytics and climate science information from partners like NOAA (National Oceanic and Atmospheric Administration), NASA, Forest Service, U.S. department of Agriculture, and FEMA.

- "We leverage the most advanced climate science and engineering approaches to quantify and communicate the risk for every property in the country".
- "The First Street Flood Model (FSF-FM) is a nationwide model that allows us to determine the potential flood risk from rain, streamflow, sea level rise, tide, and storm

surge for any location. The FSF-FM is a complex system comprising various water models and qualified input components. It is built on decades of peer-reviewed research and can forecast how flood risks will change over time due to environmental changes."

Risk Factor: <https://riskfactor.com/pricing/home-owners>

A tool and database information resources developed by the First Street Foundation which help homeowners, business, and communities understand the probability or risk for flooding and other disasters. The tool helps users discover flood risk solutions.

- "We leverage the most advanced climate science and engineering approaches to quantify and communicate the risk for every property in the country".

Ready.gov: <http://www.ready.gov/floods>

Provides flood preparedness education for individuals and offers a wide range of flood protection measures that reduce risk. Includes information and links for how to prepare for a flood including the means to stay informed, develop an emergency plan, compile an emergency supply kit, and get involved in community emergency planning.

- "Ready is a National public service campaign designed to educate and empower the American people to prepare for, respond to and mitigate emergencies and disasters. The goal of the campaign is to promote preparedness through public involvement."

Reduce Flood Risk: <https://www.reduceOodrisk.org/about/>

ReduceFloodRisk.org was developed by the Association of State Floodplain Managers to help property owners and buyers in flood prone areas identify strategies to reduce their property's risk of flooding.

- "Our goal is to connect everyone looking to reduce their flood risk with

mitigation information and resources".

- "We want to help you make informed decisions with a focus on future flood risk".

National VOAD (Voluntary Organizations Active in Disasters)

<https://www.nvoad.org/> Assists local nonprofit organizations in effectively contributing to disaster relief and helps volunteers connect with established organizations that have community connections and understanding of needs. These organizations also develop capability with appropriate safety and training procedures.

- "National VOAD, an association of organizations that mitigate and alleviate the impact of disasters, provides a forum promoting cooperation, communication, coordination and collaboration; and fosters more effective delivery of services to communities affected by disaster," (National VOAD 2024).

FEMA, National Flood Insurance Program: [floodsmart.gov](https://www.floodsmart.gov).

"The National Flood Insurance Program (NFIP) is the primary source of flood insurance coverage for residential properties in the United States. The NFIP has two main policy goals: (1) to provide access to primary flood insurance, thereby allowing for the transfer of some of the financial risk of property owners to the federal government; and (2) to mitigate and reduce the nation's comprehensive flood risk through the development and implementation of floodplain management standards". (Congressional Research Service, 2024)

- "Since 1996, 99% of U.S. counties have been impacted by flooding. Currently, only 4% homeowners have flood insurance".
- "Floods are the most common and costly natural disasters in the United States. And if you're not protected, you could be stuck paying for costly damage all on your own.

Flood insurance helps you rebuild your home and recover faster and more fully".

- Homes and businesses in high-risk flood areas with government-backed mortgages are required to have flood insurance.
- While flood insurance is not federally required if you live outside of the high-risk area, your lender may still require you to have insurance.
- If you live in a high-risk flood area and have received federal disaster assistance - including grants from the Federal Emergency Management Agency (FEMA) or low-interest disaster loans from the U.S. Small Business Administration (SBA)- you must maintain flood insurance in order to be considered for any future federal disaster aid". (Floodsmart.gov, 2024)
- "If you live in a high-risk flood area and have received federal disaster assistance - including grants from the Federal Emergency Management Agency (FEMA) or low-interest disaster loans from the U.S. Small Business Administration (SBA)- you must maintain flood insurance in order to be considered for any future federal disaster aid," (National Flood Insurance Program, 2024).

U.S. Climate Resilience Toolkit <https://toolkit.climate.gov/#steps>

A resource that helps communities discuss their climate risks and evaluate feasible resilience strategies. Helps local communities rebuild with the input available about best practices.

- "This framework helps you document climate hazards that could harm the things you care about, decide which situations you most want to avoid, and come up with workable solutions to reduce your climate-related risks".
- "Need to compile a Climate Vulnerability Assessment or Adaptation Plan? Our catalog

of more than 500 digital tools can help you take steps to build resilience, from engaging a community to developing a climate action plan," (US Climate Resilience Toolkit, 2024).

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