

AT THE READY

PREPARING FOR EXTREME
WEATHER IN WISCONSIN



WISCONSIN

POLICY FORUM

ABOUT THE WISCONSIN POLICY FORUM

The Wisconsin Policy Forum was created on January 1, 2018, by the merger of the Milwaukee-based Public Policy Forum and the Madison-based Wisconsin Taxpayers Alliance. Throughout their long histories, both organizations engaged in nonpartisan, independent research and civic education on fiscal and policy issues affecting state and local governments and school districts in Wisconsin. The Wisconsin Policy Forum is committed to those same activities and to that spirit of nonpartisanship.

PREFACE AND ACKNOWLEDGMENTS

This report was undertaken to provide policymakers, business and civic leaders, philanthropic organizations, and residents with greater understanding of the landscape of actors contributing to severe weather preparedness and potential ways to improve or contribute to it. We hope they will use the report's findings to inform both individual and collective actions around planning for, responding to, and recovering from weather hazards.

Report authors would like to thank the leadership and staff of the organizations that participated in our interviews for this report, including state, regional, and county-level emergency management and public health agencies.



AT THE READY

Preparing for extreme weather in Wisconsin

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The lead author of this report, Rebecca Rose, was the Wisconsin Policy Forum's 2025-2026 Todd A. Berry Fellow. The fellowship supports a graduate student selected annually to lead a research project on a state or local policy issue. It was named after Berry, who led the Madison-based Wisconsin Taxpayers Alliance (a predecessor to the Wisconsin Policy Forum) for more than 20 years.

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INTRODUCTION

In August 2025, the Milwaukee area endured a thousand-year flood, which proved to be the country's [second-most expensive disaster](#) of the year. At the onset of the downpour, a complex network of people, organizations, and activities sprang to life: issuing warnings and guidance, activating emergency operations centers, deploying rescue vehicles, monitoring the situation, and mobilizing volunteers. In the end, at least two people lost their lives, but the toll would have been much higher without this coordinated response.

Long after the water subsided, much work remained to be done. Initial estimates indicated that [over 1,800 homes were damaged, 54 were deemed uninhabitable](#), and as people were displaced from their homes, the need for temporary shelter outpaced available facilities. County officials suggest that final estimates put that number closer to 25,000 homes damaged. Even those who could return to their homes faced health risks from [mold, damaged electrical systems](#), and [inoperable heating systems](#). When the [federal government denied](#) the region's request for public assistance, elected officials expressed shock and disappointment and began looking into options to appeal the decision or find other ways to aid recovery.

What can we learn from this? In the coming years, Wisconsin is expected to face [more frequent and more severe weather events](#) such as extreme heat and cold, floods, and severe storms, all of which impact human health, economic activity, and infrastructure. To reduce the impacts of these events, county and local governments engage in emergency and hazard mitigation planning. However, these activities face [federal funding cuts](#) and an [uncertain future](#), which underscores the importance of documenting what is currently in place.

To better understand how local governments in Wisconsin prepare for and respond to severe weather, we reviewed state and county-level hazard mitigation planning documents and analyzed FEMA (the Federal Emergency Management Agency) datasets on weather hazard frequency and impacts. We conducted interviews with emergency management leadership and staff from across the state to better understand how the institutions responsible for emergency management, including state agencies, local governments, and nonprofit organizations, translate plans into on-the-ground action. In addition to characterizing the statewide landscape of severe weather preparedness, we investigated three counties with contrasting characteristics as case studies to understand regional differences. While this report speaks to emergency preparedness as a general issue statewide, we include details on hazard mitigation planning as a critical piece of such preparedness.

This report is intended to help state leaders and residents better understand the severe weather threats facing Wisconsin and the state's preparedness efforts. It also highlights practical steps that emergency managers believe can help communities better prepare for future severe weather events.



WISCONSIN'S SEVERE WEATHER PREPAREDNESS LANDSCAPE

When people think of severe weather preparedness, certain actions may immediately come to mind, such as keeping roads plowed and clear of snow; heating buildings so they remain safe and habitable in winter; having physical infrastructure in place to handle intense rainfall and reduce flooding; or issuing prompt warnings about hazards so people can stay safe by remaining off roads, seeking shelter in basements, or evacuating an affected area. The sheer amount of work and planning behind the scenes to make these responses possible often goes unseen. A complex web of actors works across the areas of hazard mitigation, preparedness, response, and recovery to keep communities safe.

Emergency Management Mission Areas

Definitions drawn from [Wisconsin Emergency Management](#)

Mitigation - physical infrastructure projects designed to limit damage and resulting repairs by reducing the risk to human life and property from hazards. More complex projects may include relocating buildings out of the floodplain, strengthening critical facilities to prevent wind damage, and constructing detention or retention ponds to reduce potential flooding.

Preparedness - developing a comprehensive emergency response framework that can be activated during emergencies. These systems aim to ensure that responders across multiple services, sectors, jurisdictions and levels of government can effectively communicate, coordinate and integrate their efforts.

Response - carrying out of duties during an emergency. Closely coordinating with other agencies to respond effectively.

Recovery - even after the hazard is over, some individuals, families, and communities that are especially impacted by a disaster may need more time and specialized assistance to recover.

Each of these actions requires a massive amount of planning, communication, and coordination across many governmental and non-governmental organizations. Public health staff at the state and municipal levels work to understand health threats and provide guidance to help people stay safe. Counties work to clear county and state highways of ice and snow, while municipalities do the same on their local roads.

First responders such as firefighters, police officers, and paramedics respond to medical emergencies, fires, traffic crashes, and other situations requiring rescue or immediate intervention. These first responders typically work for municipalities, but state employees such as state patrol officers and staff from private ambulance services also respond. In the most extreme cases, the National Guard may be called. Their responses are coordinated by county and tribal emergency managers.

Volunteer organizations are instrumental to response and recovery efforts. Services such as 211 (offered by local United Way organizations and other nonprofits such as [Impact](#) in southeastern Wisconsin) gather damage reports and help people navigate the complex web of post-disaster



assistance programs. Other groups mobilize to clear debris and help restore homes to habitability after disasters.

Planners develop protocols and plans for the physical design of spaces to minimize future risks. Staff engaged in grantmaking or other financial services work to get funding to support these efforts.

When a disaster overwhelms the state and local government's ability to respond and recover, and countywide and statewide damage thresholds are met, [a federal disaster may be declared](#). FEMA funds public assistance that helps reimburse the costs of repairing damaged infrastructure, which is then administered to counties and localities by Wisconsin Emergency Management (**WEM**), a division of the Wisconsin Department of Military Affairs. In the table on the following page, we summarize many of the key actors participating in severe weather preparedness in Wisconsin.

At the hub of these efforts is **emergency management**, which coordinates planning and response across actors. Every county, city, village, and town in Wisconsin is [required](#) to have a head of emergency management. When disasters happen, they spring into action, coordinating and overseeing response. Outside of emergencies, they work in planning and preparation to increase readiness for potential future disasters. [WEM](#) is the statewide body responsible for providing guidance to local emergency preparedness efforts and assembling damage estimates used to request emergency declarations.

Hazard Mitigation Planning

Hazard mitigation plans are a major mechanism for emergency preparedness work; they are often referred to as blueprints and playbooks for action. These plans include risk assessments of natural hazards, such as reporting on past frequency of different kinds of severe weather events and inventorying the number of buildings in floodplains. They also outline long-term strategies to reduce potential harm to life and property through actions, such as restoring wetlands to limit the impact of heavy rain. They focus most heavily on hazard mitigation but also include measures to improve preparedness, response, and recovery. Other documents guide immediate responses to emergencies disasters including emergency operations plans and integrated preparedness plans, but here we focus our attention on hazard mitigation plans.

In Wisconsin, these plans are prepared by the state, counties, and tribal governments. County plans can be written by the county's emergency management staff or contracted out to private consultants or the Regional Planning Commission to which the county or tribe belongs.

These plans must meet FEMA [requirements](#) to qualify for non-emergency disaster funding. These requirements include inviting input from constituent jurisdictions and the public, conducting risk assessments, laying out mitigation strategies, authorizing agencies to carry out elements of the plan, and completing full plan updates every five years. Once federal staff approve the plan, the county or tribe is then eligible for federal hazard mitigation grants.

Counties and tribes dedicate widely varying amounts of funding in their emergency management budgets to create and implement these plans. These funds come from a variety of sources, including local tax dollars and state and federal grants, including federal grants for specific concerns such as addressing hazardous materials used by industry. Some of these sources are awarded based on population and capital assets, while others are competitive grants awarded based on the ability of



the grant applicant to describe their projects in a way that meets the criteria of the agencies in charge of approving funding requests.

The process of paying for hazard mitigation work is varied, complex, and involved, requiring multiple levels of government. For counties and tribes that are eligible for federal funds, grants are awarded and then funding is distributed through states to the awardees.

Within these plans, duties and projects are assigned to the county or tribe as a whole as well as its constituent local governments. For example, in [La Crosse County's 2020-2024 Hazard Mitigation Plan](#), the county is named as responsible for projects such as improving culverts and bridges and upgrading lightning protection at radio tower sites. Individual villages and cities have their own tasks. For example, the village of Bangor was charged with relocating or updating its warning siren so it could reach the entire community, and the city of La Crosse with raising a highway to increase flood protection. One project that all municipalities within La Crosse County were responsible for was identifying buildings that could be utilized as warming or cooling shelters during extreme temperatures.

Also achieved through hazard mitigation planning is the acquisition and demolition of properties most at risk of flood damage. In the village of [Gays Mills](#) in Crawford County, for example, emergency management identified 35 properties that had suffered repeated losses due to flooding and suggested acquiring and demolishing them. [The village used funding](#) from the Hazard Mitigation Grant Program to acquire the properties beginning in 2001 at a cost of \$3.2 million. According to a [loss avoidance study](#), these mitigation projects had generated an estimated 533% return on investment as of 2018, with the avoided losses expected to increase even further as future floods occur.

[State-level emergency management](#) writes a statewide plan and offers guidance, support, and resources to local governments for both planning and implementing mitigation actions.

Actor	Responsibilities
Municipal governments	Participate in hazard mitigation planning process; implementation
County and tribal emergency management	Develop hazard mitigation plans; gather input; apply for grant funding; coordinate emergency preparedness/response/recovery; communicate with the public
Regional planning commissions	Develop hazard mitigation plans with participating counties within regions facing similar hazards
State	Form statewide hazard mitigation plan; offer guidance and resources to smaller scales of government; declare disasters in local areas or statewide; distribute federal funding to counties
FEMA (Federal)	Administer grants for hazard mitigation plans and implementation; approve state-requested disaster declarations; provide Public and Individual Assistance to aid recovery efforts
Volunteer organizations	Fill in gaps and as needed: assist with hazard mitigation projects; receive training to be better prepared to aid community; mobilize to respond to disasters; assist with cleanup and recovery efforts; maintain appropriate levels of insurance
Individual residents	Stay informed about hazards; follow best practices and recommendations for remaining safe during hazardous events; if able, participate in property-level hazard mitigation strategies



Frequency and Severity of Weather Hazards in Wisconsin

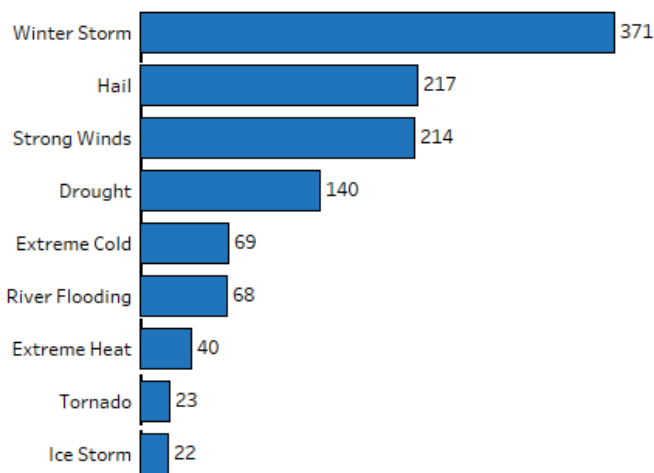
Data from [FEMA's National Risk Index](#) indicates which types of severe weather events are most important for communities to be prepared for based on how often they happen and how much damage they cause. Unsurprisingly, winter weather events are the most frequent type in Wisconsin, followed by hail and strong winds (see Figure 1). Individual lightning storms occur frequently but do not have the same widespread impact as other events.

We also utilize [federal disaster declarations](#) to see which types of weather hazard are the most destructive, as a certain threshold of estimated damage must be reached to qualify for a declaration. Note that because these numbers are reported at the county level, events affecting multiple counties may be counted more than once. In Wisconsin, the largest number of federal disasters have been declared for severe storms (see Figure 3), followed by flooding, underscoring the importance of preparation for these common and damaging events.

As Figure 2 shows, 728 federal disasters for severe weather events have been declared in Wisconsin since 1965 – most often for severe storms, which is a category that includes thunderstorms, high winds, hail, and lightning. Hurricanes appear prominently because of Hurricane Katrina in 2005,

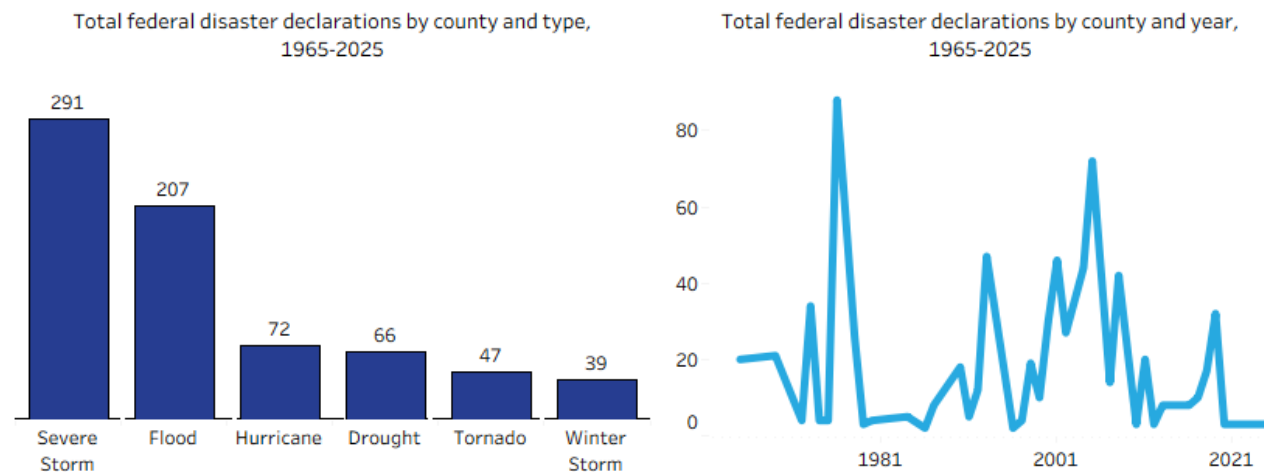
Figure 1: Most Frequent Weather Hazards in Wisconsin Are Winter Storms, Hail, and Strong Winds

FEMA estimated annual frequency of hazards, summed by county



Source: FEMA National Risk Index. Note: annual lightning events (2,455) excluded to maintain scale. Landslides, hurricanes, coastal flooding, earthquakes, and wildfires are excluded because occurrences are less than one per year.

Figure 2: Severe Storms and Floods Result in the Most Disaster Declarations



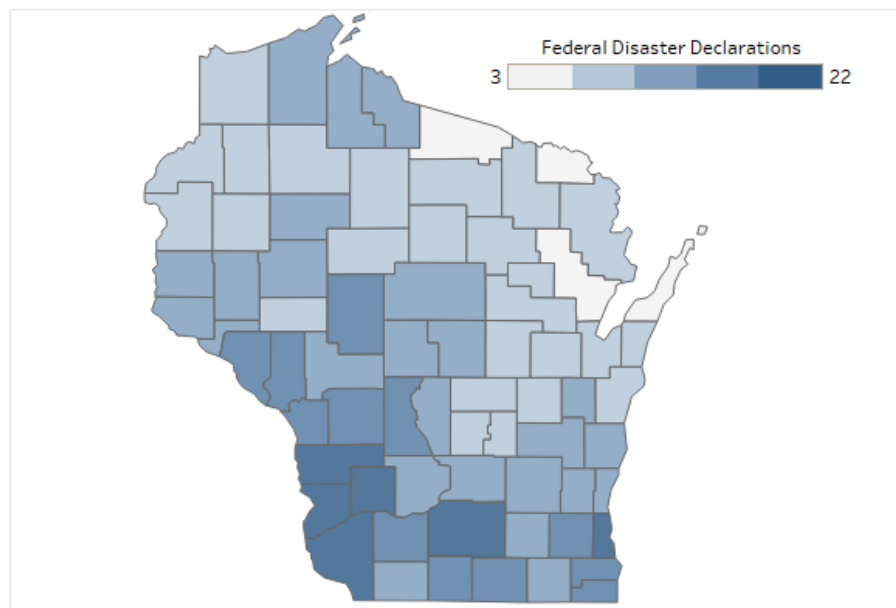
Source: FEMA



when a federal disaster was declared in every county to mobilize assistance for the affected parts of the country. One statewide disaster was declared for a fire in 1980. Examining federal disaster declarations for severe weather events over time reveals that the highest peaks can be attributed to intense drought in 1976, severe storms in 1993, Hurricane Katrina in 2005, and widespread flooding in 2019.

These disasters have not been evenly distributed throughout the state; the highest numbers have occurred in Crawford and Vernon counties in southwest Wisconsin, where flooding and severe storm events are common (see Figure 4). Additional data regarding hazard frequency, critical infrastructure, agricultural and building value and potential losses, risk ratings, and more can be explored through [Wisconsin Emergency Management's Threat and Hazard Identification and Risk Assessment report](#) and FEMA's [Resilience Analysis and Planning Tool](#).

Figure 3: Southwest Wisconsin Sees More Frequent Disaster Declarations
Federally declared disasters by county, 1965-2025



Source: FEMA

INSIGHTS FROM INTERVIEWS

To provide perspectives on the work of severe weather preparedness in Wisconsin, and opportunities to improve it, we conducted 15 interviews with people working on the issue across the state. Most participants were emergency management officials at either the county or state level, but we also spoke with people working for public health departments, regional planning commissions, the Rural Partnerships Institute, and the State Climatology Office.

In this section, we share key themes that emerged from those conversations on how emergency management addresses different hazards, major challenges faced, successes to date, and ongoing efforts. Readers should note that the findings included in this section and throughout the remainder of this report reflect the input we received from these interviews, unless otherwise noted.

Managing Different Hazards

First, we detail the different kinds of risks posed by severe weather and the varied strategies needed to face them. According to the emergency management officials we interviewed, flooding is the most worrisome type of hazard affecting Wisconsin, but it is also one that the state has become well-equipped to address. Relatively newer hazards, such as extreme heat, are a source of concern, as we largely lack the same infrastructure, institutional knowledge, and protocols to respond to and reduce their potential harm. Another important difference with these types of disasters is that they cause relatively little damage to property and infrastructure but instead result in significant health impacts and loss of life. Most of our disaster recovery funding is directed toward repairing or replacing damaged property rather than addressing health impacts.

Individuals and households also tend to be more prepared for hazards they have had to manage repeatedly or recently. If an area often faces power outages, for example, individuals are often more prepared to get by until power is restored; if outages are relatively rare, preparedness levels are often significantly lower. In an illustrative case, public health and pandemic preparedness rose to the forefront of priorities following the onset of the COVID-19 pandemic.

Beyond the weather events themselves, the cascading effects of power outages and road obstructions that stem from these storms are a major concern as well. Ice storms and other events that may cause widespread or long-lasting power outages are dangerous from a public health standpoint, especially for those who rely on electricity for medical equipment. A home without power during extreme heat or cold cannot maintain a safe temperature, and a lack of access to food, water, or rescue vehicles can quickly become a crisis.

Efforts to Manage Hazards

Fortunately, infrastructure and protocols that are used to cope with one type of hazard can often be applied to others. A warming shelter that operates in the winter can be used as a cooling shelter during dangerously hot days, and guidance to households about managing power outages or road blockages can apply to any hazard that can bring about those conditions.

Emergency management officials we spoke with universally emphasized the importance of individual and household-level preparedness, stating that when a widespread disaster strikes, people cannot rely on emergency services to reach them quickly. It is important for [individuals and households to](#)



[be prepared](#) to be stuck in place, endure a power outage, or evacuate on short notice. This will both improve their outcomes and increase the capacity of otherwise overstretched emergency service providers. However, warnings may not necessarily be received by everyone; as mechanisms for warning people about dangerous conditions shift from radios to cell phones and the internet, concerns arise about what backups are in place if a disaster co-occurs with network outages.

Rural counties in Wisconsin often face additional challenges, including depopulation, aging populations with growing health risks, and [strained emergency and health infrastructure](#) on top of often-limited emergency management staff and resources. Furthermore, because FEMA's thresholds for disaster assistance are based on physical damage to infrastructure, places with smaller populations and fewer buildings are far less likely to qualify for aid than their more urban counterparts. Additionally, infrastructure such as tornado shelters and warming or cooling shelters in rural areas tend to be less accessible and less utilized because of lower populations and population densities, but officials are hesitant to leave people without these options.

Challenges In Hazard Mitigation Planning

While hazard mitigation plans are an essential tool to address severe weather hazards, emergency managers said they are often fighting uphill battles in writing and implementing them. With additional resources and ways to overcome barriers, they say they could accomplish even more.

Emergency management officials shared that due to the nature of the federal approval process and incentive structure, writing hazard mitigation plans can feel like a box-checking exercise where they jump through many hoops in hopes of receiving hazard mitigation grant funding. The process of fully updating a county's hazard mitigation plan every five years is costly, and was described as burdensome in some interviews. Emergency management officials said it costs approximately \$40,000 and extensive staff time to update a plan given the need to complete all of the detailed requirements to receive FEMA funding. These costs must be covered through relatively small county or tribal budgets for emergency management activities that range from \$1 million annually in Dane County to \$300,000 in Bayfield County. Those in the position of writing and implementing these plans must go "above and beyond" to make them effective and to assure proper implementation.

Our interviewees suggested that the success of these efforts depends largely on the initiative, creativity, and skills of the individual leading them. Relatedly, emergency management may be housed in different county departments such as law enforcement, transportation, or planning, which influences the priorities and expertise of those drawn to these positions. Gaps in the curriculum or training of an emergency manager may leave blind spots in areas that would otherwise serve them and their communities well.

Emergency management officials are proud of what they have accomplished, given their limited resources, but they unanimously reported that more funding and staff would let them be more creative and proactive, better translate plans into action, have more meaningful engagement with communities and local leadership, share lessons with each other, and achieve better outcomes through lives saved and reduced infrastructure damage. The work of severe weather preparedness is largely invisible to most, especially when it is successful; it only makes the news when something goes terribly wrong. As a result of this "[preparedness paradox](#)," it is difficult to argue the importance of this work to the public and to those who are forced to make difficult decisions about how to distribute a limited county or tribal budget.

Some of the county emergency management and planning officials we interviewed expressed frustration at the narrow criteria utilized at the federal level; they noted that many proposed hazard mitigation efforts have been denied funding support by FEMA despite arguably contributing to shared goals. For example, a proposed tornado shelter was intended to have air conditioning to serve as a cooling center as well, but the budget for this addition and its co-benefits were not approved. [Federal descriptions](#) of “ineligible” projects include actions that arguably contribute to hazard mitigation, such as agricultural practices that improve erosion and flooding outcomes.

Statewide Severe Weather Preparedness Efforts

As part of our reporting on the current state of severe weather preparedness in Wisconsin, we highlight some accomplishments to date and ongoing efforts. Key themes across these efforts include data collection, strengthening connections between researchers and communities, and communication and outreach.

- The [Rural Partnerships Institute's current projects](#) include preparing Wisconsin's rural communities for amplified weather extremes across the areas of agriculture, schools, and hazard planning. This includes working with emergency management to streamline data collection and interviewing farmers about the impacts of severe weather on their livelihoods.
- The [State Climatology Office](#) provides Wisconsinites with weather and climate information, helps stakeholders understand and apply climate information, conducts research on changing trends, and constructs [county climate profiles](#) upon request. Recent research and educational posts include [trends in extreme weather](#), [severe storms](#), and the [increasing frequency of large hail events](#).
- It can be crucial to have accurate and nearby weather monitoring stations, but these have historically been absent across much of the state. To address this gap, [Wisconet](#) is a new and growing network of weather and soil monitoring stations across Wisconsin that provide real-time and historical information on weather conditions, including agricultural products for farmers.
- The [Menominee](#) and [Oneida](#) Indian Tribes of Wisconsin have both recently been working to increase their electrical resilience with renewable energy and microgrids, reducing vulnerability to power outages in extreme weather events and reducing emissions.
- The [Department of Health Services: Climate and Health Program](#) gathers and shares relevant information on staying safe through severe weather events and other climate hazards via [toolkits](#) and working groups such as the [Heat Health Network](#).
- A bipartisan group of lawmakers have been advancing the [Wisconsin State Emergency Relief \(WISER\) Act](#) – statewide public disaster relief legislation designed to address the gaps left by federal funding as demonstrated by the August flooding in southeastern Wisconsin. While this bill did not ultimately become law, it may be revisited in the next legislative session.
- [Stories from the Flood](#) is an ongoing oral history and community service project sharing stories from those impacted by flooding around the Kickapoo River and Coon Creek. In addition to helping affected residents process and heal from these events, these perspectives inform planning for future flooding and may make the realities of flooding disasters more concrete and urgent to readers.



Recent federal funding cuts and uncertainty have jeopardized this work as well. In April 2025, the federal government canceled the Building Resilient Infrastructure and Communities (BRIC) program, [ending billions of promised grant funding](#) to hazard mitigation efforts across the country and halting projects such as [building tornado safe rooms in Grant County and developing flood mitigation infrastructure along the Kickapoo River](#). With the federal suspension of BRIC funding, and the recent [denial of aid](#) to assist with the August flooding impacts and recovery in Wisconsin, trust in the process has been shaken, with many local officials apprehensive about spending a large amount of time on applications for funding that may be pulled without warning. They say it is even uncertain whether hazard mitigation will remain a federal requirement at all. While a [court case](#) has restored the federal funds, uncertainty remains about federal support for these activities.

Summary

Preparing planning documents to guide severe weather response is a complex task that involves managing multiple risks across a wide area, often spanning municipal and county boundaries. This requires coordination among multiple levels of governments, including counties, tribes, municipalities, and state organizations such as Wisconsin Emergency Management and the Department of Health Services. It also requires active participation and preparedness among community residents to ensure that planning leads to safe outcomes. Effective emergency management planning depends on a broad range of expertise, including weather forecasting, public health, and the knowledge of those on the ground. Recent changes to federal guidance and funding have made these processes more challenging.

Those we interviewed emphasized that even the most comprehensive and detailed plans are of little value without the resources needed to implement them. These plans often identify important actions that can make communities safer if disasters occur, but the strained budgets of many local governments make it difficult to carry out these recommendations without outside financial support. In many cases in the past, that support has come from the federal government, but the future availability of these funds is increasingly uncertain.

CASE STUDIES

To understand how local communities are assessing risks and preparing for severe weather events, we took a closer look at emergency preparedness activities in Milwaukee, Pepin, and Richland counties. This allowed us to explore three distinct communities in greater depth and to consider how factors such as population size and landscape shape hazards and disaster response.

Milwaukee County has the largest population and is the most urbanized county in the state, which means that more lives and infrastructure are at risk from each event, and more people stand to benefit from each intervention. In contrast, Pepin and Richland Counties both have far lower populations and population densities. They contain less infrastructure but are still heavily impacted by flooding along rivers and creeks due to their rugged and steep topography, which can funnel rain that falls over large areas into a swift and dangerous flow.

Below, we outline the key issues identified in each county's most recent hazard mitigation plan and share insights from interviews with county and regional emergency management leaders.

Milwaukee County: Battling Extremes

Milwaukee County has invested heavily in flood mitigation and management, which has greatly reduced potential flooding but can still be overwhelmed by thousand-year floods, as seen in August 2025. The county is quite segregated, and exposure to environmental risks is very uneven across demographics, but many people are [working to address weather, climate, and justice as intertwined issues](#).

The county's most recent [all-hazards mitigation plan](#), approved in 2025, identifies severe storms (thunderstorms, high winds, hail, lightning), winter storms, and temperature extremes as the mostly likely hazards to occur, while those listed as posing the greatest threat to life and safety include these as well as flooding and tornadoes. Milwaukee's highly urbanized environment makes it particularly vulnerable to flooding. Large amounts of pavement and other impervious surfaces prevent water from absorbing into the ground, causing it to pool and flow during extreme precipitation events.

In 1996, Milwaukee Metropolitan Sewerage District (MMSD) [changed its approach](#) from trying to control floods to [managing them](#), embracing more holistic and environmentally friendly strategies and addressing the [watershed as a whole](#). The city's [Deep Tunnel system](#) was constructed starting in the 1990s to store vast amounts of water that would otherwise overwhelm the water treatment system and cause sewer overflows and basement backups. MMSD has also put a tremendous amount of work and resources into expanding [green infrastructure](#), such as wetland restoration and tree planting, to manage stormwater and reduce flooding and sewer overflows; it has invested [\\$631 million](#) in flood management projects over the past 30 years. In addition to physical infrastructure, emergency management works with a network of volunteer organizations that have been integral in response and recovery efforts through [Southeast Wisconsin Community Organizations Active in Disasters \(SEWI COAD\)](#).



The financial impacts of the August 2025 flooding are immense, with an estimated [\\$33 million in damaged and destroyed homes and \\$43 million in damage to public infrastructure](#) across the state, and support systems have not been operating as usual to help alleviate these challenges. Final distribution of federal aid to individuals totaled more than \$175 million. Because of the rare intensity of the August flooding event, buildings outside of the floodplain and without flood insurance were affected. Furthermore, while the estimated damage was nearly seven times the threshold set by FEMA to qualify for federal aid, requests for funding for public infrastructure have been denied, as detailed in our [July report](#). In disasters such as this, FEMA can grant Public Assistance (to repair infrastructure such as roads and bridges) and Individual Assistance (for households and business owners). Typically, Public Assistance and Individual Assistance are both approved, but in this instance, only Individual Assistance was approved. Prior to 2025, most declared disasters were also approved for hazard mitigation grants, but since February 2025 none have been approved nationally for these grants.

To cope with other dangers from the weather, county emergency management also leads the Extreme Weather Task Force: a coalition with the purpose of helping people with few options escape dangerous cold and heat through coordinated preparedness, information sharing, and outreach. This multi-agency partnership consists of local government agencies and nonprofit organizations working across public health, public safety, social services, transportation, utilities, first response, and more. The group meets twice a year before the onset of winter and summer. Leadership sends out information for members to share with their constituents when dangerous extreme heat or cold events are forecasted.

Originally conceived as the Extreme Heat Task Force in 2014, this group expanded its scope in 2022 to address both extreme heat and cold, recognizing that people need access to spaces with safe temperatures as well as information and resources that can meet their needs during both types of extreme weather.

Insights for Peer Communities

Milwaukee County's experience establishing a coalition devoted to distributing information and resources for dealing with extreme weather may have potential to be utilized elsewhere in the state. It provided a venue for collaboration across different government entities that is vital to addressing emerging severe weather challenges.

Pepin County: Insights From Household Preparedness Survey

Pepin County's [current all-hazards mitigation plan](#), approved in 2023, details risks and interventions. [Flooding](#) is the most concerning local hazard, and the county's floodplain maps were recently updated.

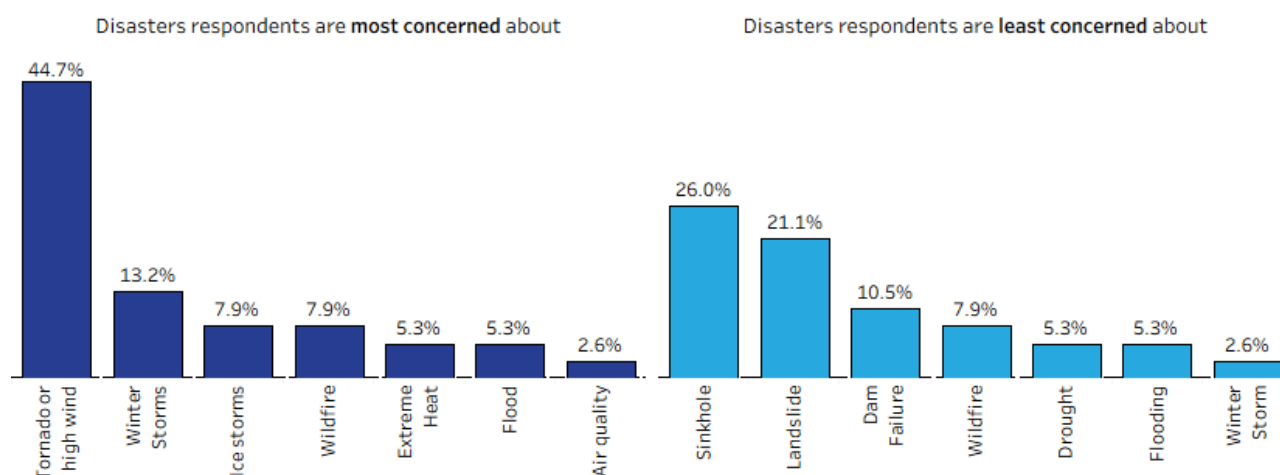
Flooding is not a new problem in Pepin County; in fact, it occurs more or less every year, but residents may not be prepared to respond. Emergency management officials emphasize that during severe flooding events, rescue vehicles may not be able to cross the water to help someone, and the county does not have rescue boats that could traverse floodwaters. Rather than exclusively relying

on rescue, they ask that residents stay informed and have a plan so they can stay as safe as possible.

The county's plan also acknowledges gaps: Pepin County does not have any tornado shelters, because there are no eligible buildings to serve in this capacity. The county also has no permanent homeless shelters. Emergency management officials are concerned about individuals living in mobile homes, as they need options during severe wind events. One of the schools in the county had begun the process of establishing a storm shelter, but federal funding changes for BRIC grants halted progress. With the federal funds reinstated, county officials indicate they are resuming efforts to establish the shelter.

To gauge personal preparedness and public understanding of local hazards, Pepin County's hazard mitigation plan includes results from a public-facing, household-level Hazard Assessment and Preparedness Survey, based on a [nationally administered survey](#). Emergency management officials report struggling with attendance and participation at public-facing events and hearings intended to gather feedback, and they cite this survey as an important channel for public input to understand their community's assets, needs, and the effectiveness of current communications. Results from this survey on hazard risk assessment are shown in Figure 4.

Figure 4: Survey Respondents in Pepin County are Most Concerned About Tornadoes and Winter Storms



Source: Pepin County emergency preparedness survey

According to the most recent survey's results, the majority of respondents follow a number of best practices of individual preparedness, including having an emergency plan, a communications plan, and a three-day supply of food, water, medicine, and essentials. A majority also believed they could last at least three-to-five days without power or running water. However, most reported not having emergency supplies packed and ready in the event of an evacuation. Over 80% of survey respondents also shared that the survey itself was a useful educational tool and that it gave them ideas about how they can increase their preparedness going forward.

Insights for Peer Communities

Pepin County's survey provided useful information for their future severe weather planning and mitigation efforts. Other communities may want to consider a similar survey to both better understand the priorities, needs, and preparedness levels of the populations they serve, and to increase awareness of the different components of individual and household preparedness.

Richland County: “It’s about the people”

Richland County's current [hazard mitigation plan](#), completed in 2022, ranks both flash floods and river floods as having very high occurrence and high severity. Over the past century, flooding records are being broken more and more frequently in an alarming trend. The county also has an aging population, which raises concerns about the [health impacts of extreme heat](#) and the ability of [health and emergency response infrastructure](#) to keep up with increasing need.

Emergency management officials shared that because the incentive structure of hazard mitigation planning grants rewarded the writing of plans but not their implementation, there was difficulty in fully making those plans a reality. In response to this challenge, over 40 stakeholders, experts, and community members formed the Richland Resilience Group, which intends to keep a pulse on community needs and coordinate these efforts.

The process of bringing everyone together involved tapping personal connections, identifying absences of representatives from relevant sectors, and bringing them in. These sectors include job services, the local chamber of commerce, schools, small businesses, human services, public health, banking, agriculture, tourism, public safety, large retail, and more.

Originally founded in response to the COVID-19 pandemic, the group meets quarterly and works to build resilience of the whole community and meet challenges that affect community health. The personalities, initiative, and visions of the people who founded or joined this group are all viewed as integral to its success. This framework centers concerns of community members, invites their direct participation, and translates goals into action. Priorities that have arisen across sectors include water quality, healthy soil, air quality, and caring for the county's watersheds.

The water quality-focused efforts [address a dire gap](#) in current flood forecasting and warning systems. Throughout the United States, digital stream gauges monitor and [broadcast live river conditions](#), which can provide early warnings about flood conditions, especially from upriver gauges. However, in Richland County there are no such gauges in place; the only one currently operating sits above the water level, and if the river rises to meet it, the situation is already dire. Warnings about boating safety and impending flood conditions are made by those armed only with a yardstick and a deep knowledge of place earned by living there for decades. Lives have been lost without a live broadcasting monitoring system, and a single digital gauge that automatically uploads and reports conditions costs [thousands of dollars](#).

Working with UW-Extension through the [Water Action Volunteers](#) program, and the [Southwestern Wisconsin Regional Planning Commission](#), the Richland Resilience Group has seen an encouraging number of community members come together in citizen science efforts to monitor water flow and quality. This also brings co-benefits of education and increased connections both among community



members and to the watershed itself. The group also engages with fishing associations and farmers, as fishing depends on healthy rivers, and agricultural practices that slow water runoff and reduce the dangers of flash flooding also protect the soil. As part of this process, multiple partners have come together to provide free well testing and share that information publicly. The group has also hosted informational sessions related to collaborative land-use planning, including residents, farmers and County Board members. The Richland Resilience Group's holistic conception of resilience emphasizes interconnectedness across systems and defies the kind of siloing that can otherwise result from narrow definitions of disasters and emergencies. Its founders and members have many insights from forming and working with the group that those interested in starting a similar group could learn from.

Insights for Peer Communities

The work of Richland County community members demonstrates how people can come together to put steps identified by hazard mitigation plans into action. It also highlights the importance of citizen science to address data gaps and forge deep connections to our watersheds. Other communities could consider leveraging community connections to fill in gaps that they may find in their emergency preparedness actions.

Summary

Each of our case study counties faces distinct challenges, both in terms of the types of severe weather they experience and the social conditions within their communities that make disaster planning unique. However, all three share a common approach: leveraging community assets to provide mechanisms to strengthen coordination among the many groups involved in emergency preparedness planning. Milwaukee County's case provides a model for cross-agency collaboration on emerging hazards. Pepin County shows how planners can use survey methods to identify gaps in local knowledge and preparedness, which can inform actions to address those needs. Richland County's experience shows how engaged community members can serve as vital partners in moving emergency preparedness work forward. Together, these examples offer useful lessons for other communities seeking to build the relationships and coordination needed among the many organizations and individuals involved before, during, and after severe weather strikes.

POTENTIAL WAYS FORWARD

A number of possible strategies for strengthening severe weather preparedness in Wisconsin were suggested by multiple individuals we interviewed for this research. In this section, we highlight those options, which fall under two main themes: improving the process of hazard mitigation planning, and public engagement.

Planning for Extremes

Several suggested strategies would make changes to hazard mitigation planning, project implementation, and the structures that shape severe weather preparedness work and the people contributing to it.

The process of hazard mitigation planning: Given challenges inherent in the current system of writing and updating hazard mitigation plans every five years, suggestions for alternatives include more frequent, smaller changes rather than complete overhauls, as well as coordinating planning efforts with health vulnerability assessments, which happen on similar but unaligned cycles. Officials also express optimism around [Integrated Preparedness Plans](#) and their potential for addressing many of the issues named here through their framework of establishing priorities and mechanisms to address them. These plans are designed to serve as more dynamic documents that exist alongside hazard mitigation plans and can more rapidly adjust to changing demographics, weather patterns, and available resources. The hope is that these plans with smaller but more frequent updates will help make hazard mitigation plans more flexible and responsive while also requiring fewer resources.

Rethinking emergency management as a profession: Interviewees emphasized that the expertise and enthusiasm of individuals that hold the role of emergency manager has a tremendous influence on a county's disaster planning and response. Suggestions for addressing gaps between the status quo and desired improvements included updating the educational experience for emergency management certification to be more holistic by incorporating public engagement and climate science; increasing the public's awareness of the profession; and attracting and supporting passionate people who are interested in engaging with communities and convening people across sectors.

The long road to recovery: Among the key components of emergency management (mitigation, preparedness, response, and recovery), recovery is the area that several emergency managers identified as the weakest in Wisconsin. People on a large scale do not seem to understand how much it truly costs and how long it takes to fully recover from a disaster, leaving this process under-considered and underfunded. The thresholds of estimated damage to meet federal disaster assistance are very high ([over \\$11 million](#) for Wisconsin for public assistance), such that many disasters that occur in the state do not qualify.

Public Engagement

These potential strategies concern the role of the public, relationships between emergency management and their constituents, and communication. While the bulk of these interactions and thus strategies happen at the county and municipal levels, they are also relevant to state agencies and nonprofit organizations that participate in the emergency preparedness process.



Household-level preparedness and contributions: In addition to staying informed and prepared, household-level actions such as keeping gutters clear, channeling water away from one's house, and investing in stronger roof trusses can make a striking difference in reducing the severity of hazards such as flooding. One identified need is educating people about these options and lowering barriers to implementation. Our [prior research](#) also indicates the importance of insurance in the context of flooding, and individual choices about insurance are an important factor in preparing for other types of disasters.

Communication and community engagement: While county emergency management departments put out communications, warnings, and calls to participate in public events, low response rates and little engagement bring into question how much they are truly reaching people. Outreach and engagement with local leadership and constituent communities are integral to establishing trusted messengers for critical information, and they can build a foundation for meaningful community input into decisions surrounding hazard mitigation and severe weather response.

It is important to understand people's priorities, even if they may not seem rational; if asked to evacuate to a place where they cannot bring their pets, for example, people with pets will generally not go. Shelters and evacuation options must accommodate animals to be utilized. Polarization can pose a formidable obstacle to collective conversations about how to prepare for future hazards, but interviewees suggested beginning with shared concerns and visions of the future, and framing climate change as currently experienced extremes. The Milwaukee Extreme Weather Task Force, Pepin County's survey, and the Richland Resilience Group all demonstrate different approaches to bridge the gap between emergency management and the public.

Essential but shrinking volunteerism: Networks of nonprofits and volunteers are an [integral part](#) of disaster response in the state. However, volunteer participation [has decreased by 7% nationally](#) since the onset of the COVID-19 pandemic, as retirees (who make up a substantial part of the volunteer base) age and younger people do not fill gaps. Explanations include that many young adults are too overworked to volunteer on top of their jobs, that low "volunteer" wages may not be sustainable given the rising cost of living, and broader long-term trends of [declining civic engagement](#) in the United States. Increased awareness of this phenomenon, and a concerted effort to increase community involvement, may help address this trend.

Sharing out stories: At the root of many of these issues is a lack of awareness: of the importance of funding mitigation and preparedness to reduce the high costs of recovery; of the work of emergency management and the need to increase interest in the profession and support for preparedness; and of the importance of volunteerism, benefits to the community, and the sense that a person can make meaningful change. Furthermore, if a disaster is not publicized, it typically draws fewer volunteers, donations, and resources to respond. The slow and often unglamorous work needed to make positive change does not spread in the same way as bad news, so a concerted effort is needed to share good news and the stories of people who are making change.

OBSERVATIONS AND CONCLUSIONS

Preparing for and responding to severe weather in Wisconsin requires sustained coordination among emergency management officials, government agencies at all levels, and private sector partners. Their work includes physical infrastructure projects, emergency planning and response, interagency coordination, and long-term recovery efforts. As severe weather events become more frequent and intense, institutional constraints, limited funding, and recent uncertainty surrounding federal funding are placing increasing pressure on these systems. Drawing on interviews with emergency management professionals, our analysis identifies common challenges and highlights recommended strategies to strengthen community readiness.

Wisconsin communities face the greatest threats from severe storms that can result in flooding, tornadoes, or destructive straight-line winds. Winter weather also remains a persistent hazard, bringing extreme cold and heavy snowfall, while extreme heat and wildfire smoke have emerged as increasingly significant challenges. Each of these hazards require specific preparedness measures, response strategies, recovery efforts, and mitigation planning to make future events less damaging.

Coordinating the complex network of organizations involved in severe weather preparedness and response requires intentional work by emergency managers and strong partnerships. Communities take different approaches based on their specific combination of threats, capacities, and resources. Improvements can be achieved by strengthening coordination among government agencies, expanding collaboration with community organizations, and increasing public engagement in preparedness activities. Although no single model fits every community, the case studies presented in this report offer practical examples that can be adopted to local circumstances.

Our [prior research](#) has documented the fiscal constraints facing local governments, which limits resources available for emergency management. As federal support to local governments for hazard mitigation and recovery efforts becomes more uncertain, these funding gaps are likely to widen. The state could potentially play a larger role by gathering information on individuals' assessment of their own hazard risks and household preparedness. The state could also consider offering material support along the lines of what is proposed in the Wisconsin State Emergency Relief Act, a bill introduced in the most recent legislative session. However, trying to fill in for federal resources would be difficult given the potential scope of the need and the state's fiscal constraints. In addition to working to fill gaps, the state could also plan for how to utilize any additional federal resources that may come in the future.

Emergency management officials from multiple jurisdictions that we interviewed identified several policy changes at the federal level that could substantially improve preparedness and resilience. These include restoring funding for hazard mitigation and recovery projects, revising hazard mitigation planning requirements and incentives to better reflect local needs, and broadening eligibility criteria for mitigation projects that reduce future disaster risk.

We hope that our analysis of this system and the perspectives we gathered on severe weather preparedness challenges and potential solutions provide valuable insights for decisionmakers as they develop future preparedness strategies across Wisconsin.

