

Building Resilience in Michigan's Emergency Management

Defining the Problem

When people's basements are constantly flooding and the roads have become rivers, that means the area has a flooding disaster. These severe weather events are brought on by climate change. Part of the government's duty is to assess hazard risks and prevent these disasters. When the systems fail to manage the increasing threat of severe weather, disasters become unavoidable.

For example, scientists have verified that climate change has disrupted the Polar Vortex, causing the extreme cold front to drop below the North Pole, and created the mass snowstorms witnessed across the Midwest that began in 2019.¹ In June 2021, Governor Whitmer declared a State of Emergency for both Detroit and Dearborn after heavy rainfall hit them, which led to flooding disasters.²

Number of Disasters Declared in Michigan from 1992 - 2020

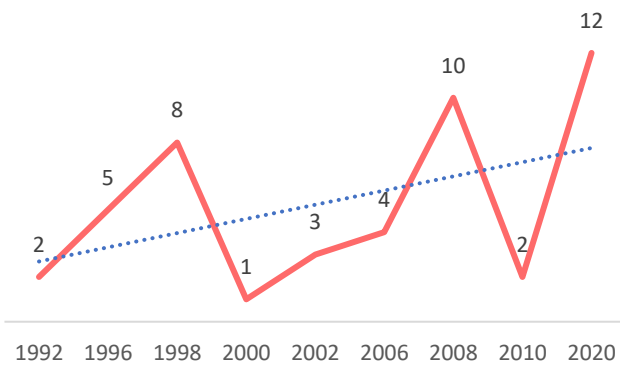


Figure 1. Trend of State of Emergencies and Disasters declared by Michigan Governors from 1992 to 2020.

Types of Disaster Michigan Declared from 1990 - 2021

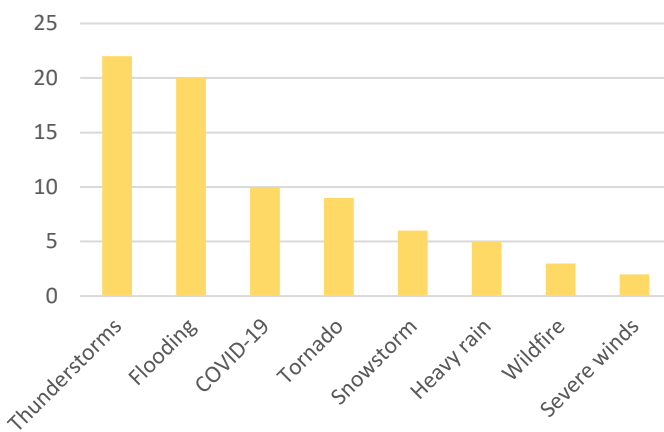


Figure 2. Categories of Michigan hazards that Governors have declared State of Emergencies and Disasters for from 1990 to 2021.

assistance when individual counties fail to mitigate disasters.

Still, the effects of climate change are difficult for many of us to wrap our heads around and the effects of it can often be too subtle to notice, especially in the landlocked states. Instead, climate change can best be seen from a cumulative approach.

Data was collected from the Michigan Legislature website,³ specifically Executive Orders (Eos) that declare a State of Emergency and/or a State of Disaster between the years 1990 to 2021. These EO's help to demonstrate how climate change has been affecting Michiganders. These special EO's signal to the President of the United States that the state needs

¹ Burns, R. (2019, December 24). *Top 3 West Michigan weather stories of 2019*. WWMT.

<https://wwmt.com/weather/severe-weather-center/top-3-west-michigan-weather-stories-of-2019>

² MacDonald, C. (2021, August 23). *Investigators pushed for basement flooding text alerts. but Detroiters never got them*. Detroit Free Press. Retrieved October 15, 2021, from

<https://www.freep.com/story/news/local/michigan/2021/08/23/detroit-flood-damage-investigation-recommendations-text-alerts/8184791002/>.

³ [http://www.legislature.mi.gov/\(S\(s1mhqcgqan20nxl22a51h5h\)\)/mileg.aspx?page=executiveorders](http://www.legislature.mi.gov/(S(s1mhqcgqan20nxl22a51h5h))/mileg.aspx?page=executiveorders)

The trend line in *Figure 1* illustrates how Michigan has been declaring emergency disasters at an increasing rate over the last 30 years. *Figure 2* summarizes that the majority of those declarations go to severe storms and flooding. Meaning that Michigan is experiencing more severe storms than the state's emergency management system can mitigate against and increasingly requires federal intervention to manage these everyday hazards.

Vulnerable Cities

Our state's lack of preparedness is amplified in what emergency managers call vulnerable cities. Detroit, Dearborn, and Flint are examples of vulnerable cities as they experience additional adversities exacerbated by environmental racism.⁴ These cities have suffered from neglect by the state government because of the demographic makeup of their residents, which led to the mismanagement of funds, resources, and poor infrastructure. Detroit's fiscal crisis and the Flint water crisis do not exist in a vacuum, and the ramifications of this neglect have made them more vulnerable to natural disasters.⁵ For instance, the flooding mentioned earlier in Detroit and Dearborn forced Governor Whitmer to request an immediate Presidential state of emergency declaration for Wayne County. Meanwhile Oakland County, Wayne's neighbor with fewer vulnerable cities, was able to manage the same storms.

The Scope of Michigan

The extent of Michigan's vulnerability was studied through county Hazard Mitigation Plans (HMP's) and their Emergency Management websites. One county was selected from each of the eight regions that Governor Whitmer laid out in her coronavirus reopening strategy (*Figure 3*).⁶ This way the analysis captures every distinct area of Michigan, without creating bias for one regional area or another. It will also help to compare different state agencies that aid in disaster relief and emergency management because they also utilize Governor Whitmer's map, such as the Michigan Community Service Commission. They use this map to visualize where to send volunteers and implemented a regional volunteer networking system.⁷ The eight counties are respectively as follows: Ingham (Region 1), Wayne (2S), Oakland (2N), Bay (3), Kalamazoo (5), Kent (6), Grand Traverse (7), and Marquette (8) (*Figure 4*).



Figure 3. Regional Map of Michigan. From: <https://www.clickondetroit.com/>

⁴ Newkirk, V. R. (2017, June 5). *Environmental racism is the new Jim Crow—The Atlantic—The Atlantic*. <https://www.theatlantic.com/video/index/529137/environmental-racism-is-the-new-jim-crow/>

⁵ Margolin, J. (2020, June 8). *Why The Climate Movement Must Unite Behind the Black Lives Matter Movement*. <https://theelders.org/news/why-climate-movement-must-unite-behind-black-lives-matter-movement>

⁶ Hutchinson, R. M., Derick. (2020, May 19). *Explaining how, why Gov. Whitmer broke Michigan into 8 regions for reopening plan*. WDIV. <https://www.clickondetroit.com/news/local/2020/05/19/explaining-how-why-gov-whitmer-broke-michigan-into-8-regions-for-reopening-plan/>

⁷ Department of Labor and Economic Opportunity, Michigan.gov

Identifying Resiliency and Vulnerability

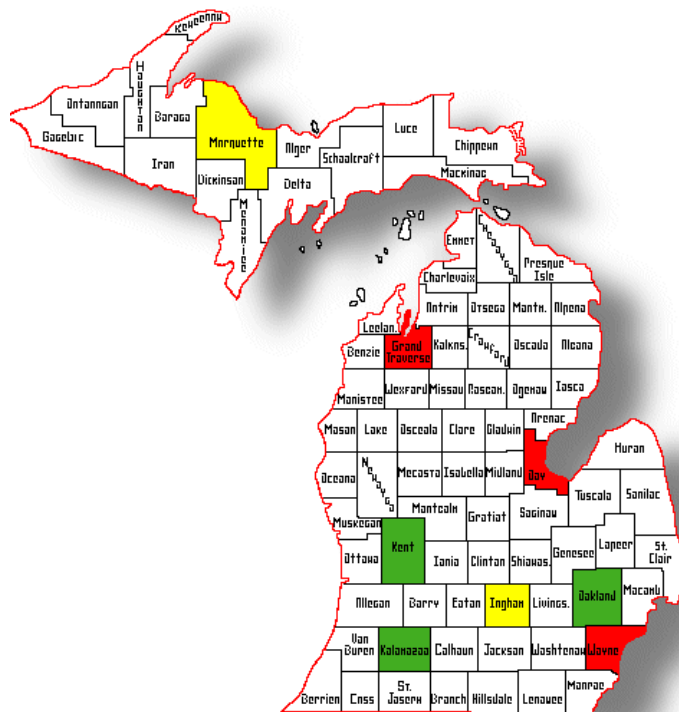


Figure 4. County map of Michigan with eight counties colored coded red for vulnerable, yellow for moderate, green for resilient.

Oakland, Kalamazoo, and Kent’s websites demonstrate very robust county emergency management departments in their own unique ways (coded green in Figure 4). Kent County has a “13-county regional collaboration . . . [that] benefits from expanded response resources and talents.”⁸ Those thirteen counties include Clare, Ionia, Isabella, Lake, Mason, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Osceola, and Ottawa. This collaboration shows that it is possible to create regional coordination within Michigan as these counties make up Region 6. The Kent County EM website also highlighted all their different programs. Whereas Oakland County showed robustness in programming as the county participates in the National Weather Service’s Storm Ready program.⁹ While Oakland proves to take advantage of FEMA programs and

resources like the Community Emergency Response Team (CERT)/Citizen Corp program. The county offers various trainings for emergency response volunteers which means they have a strong network of volunteers within their community. Therefore, while Oakland has significant vulnerabilities to flooding, like Wayne, they establish a higher base of preparedness to combat them. Kalamazoo has a similar network of volunteers through their Kalamazoo County Response Consortium (KCRC) which offers volunteer services such as disaster mental health, disaster case work, and cleanup.¹⁰ These three county websites and HMPs show more dedication and commitment to emergency preparedness than any of the other counties that were studied.

Although all eight counties offer basic information on their Emergency Management websites, such as Emergency Manager contact and types of hazards in their respective counties, the other six counties do

⁸ Kent County Sheriff Department, accesskent.com

⁹ Oakland County Emergency Management, <https://www.oakgov.com/emergency-management/Pages/default.aspx>

¹⁰ Kalamazoo County Emergency Management, <https://www.kalcounty.com/em/>

not offer as many government resources and preparations. They mostly offer suggestions on how families can plan for disasters and general information on hazard mitigation.

Furthermore, it is clear Michigan's emergencies stemmed from old and outdated infrastructure, especially in rural and low-income counties. For example, counties in Mid-Michigan reported more than ten dams at high-risk of failure.^{6 11} While rural counties up north reported their priority hazards are the risk of county-wide power outages and communication breakdown.^{12 13} All HMPs had projects on their dockets to remedy outstanding issues. However, the plans in the most vulnerable counties (coded red in *Figure 4*) were stuck in the planning stage, lacking adequate funds to get them off the ground.

Policy Recommendations

Without these necessary updates, Michigan's emergency management will continue to rely heavily on individual volunteers. If counties cannot mitigate the rising number of disasters, then it is imperative that they invest more into strengthening our volunteer base through trainings and expertise. Oakland and Kalamazoo exemplify in their HMPs how counties can be more connected their volunteer community.^{6 7}

Counties should strive to ensure that their emergency management systems are robust and timely through certification and fast, reliable communication, like Storm Ready and CodeRED.¹² Similarly, counties should aim to meet the national standards laid out by the Federal Emergency Management Agency (FEMA) in their newest Strategic Plan,¹⁴ which include investments in climate resilient infrastructure. This means developers and governments should consider climate hazards when building new and updating infrastructure. Few HMPs even mentioned climate change, and most did the bare minimum when it came to updating their plans. It is imperative for counties to acknowledge the threat of climate change and prepare for it.

Overall, Kent is good example of what Michigan is capable of. Working with the other twelve counties to pool their resources together helps them manage emergencies more effectively. This takes stress off the individual county to manage on their own. Preventing them from exhausting all their own resources and declaring disaster. Utilizing Governor Whitmer's regional strategy makes the whole of Region 6 the most resilient part of the state. Following their lead will make the entire state of Michigan m

¹¹ Hazard Mitigation Plan for Kent and Ottawa Counties. (2017).

¹² Grand Traverse County Emergency Management, <https://www.gtcountymi.gov/278/Emergency-Management>

¹³ Marquette County Emergency Management, <https://www.gtcountymi.gov/278/Emergency-Management>

¹⁴ About Us | FEMA.gov. (2021). <https://www.fema.gov/about>