

Vulnerability of Panama City, Florida to Hurricane Michael

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Introduction:

Panama City, Florida had always been vulnerable to hazards because of its location, coastal geography, and socio-economic characteristics. Hurricane Michael exposed this vulnerability when it hit its shores in October 10, 2018 as a Category 5 Hurricane and it left behind catastrophic damage in Panama City. This research aims to study the recovery process of the citizens of Panama City to understand the resilience that the city has or lacks, factors of vulnerability and their causes, as well as how the citizens have recovered and what processes did they utilize in that recovery process.

Research Questions

- What are some of the vulnerabilities that were exposed due to Hurricane Michael?
- What are the causes of these factors?

Purpose

This research aims to not only identify the factors of vulnerability, but also the causes behind those factors as well. This will not only allow for the residents of Panama City to understand these factors better but also understand ways of addressing and minimizing these factors. This project can also be used to study how Vulnerability is measured and provide depth to current Vulnerability Indices, such as the Social Vulnerability Index (SoVI).



Photo 1. A store in downtown Panama City right after Hurricane Michael.

Methods

- Recording and Transcribing interviews of citizens across the Panama City Area with Otter.ai.
- 24 Interviews are recorded by the mentor.
- Undergraduate assistant listen and correct the transcription that Otter.ai provided.
- Provides an idea of what common themes and topics are discussed.
- Highlights problems that the individuals being interviewed dealt with after the storm.
- Coding interviews with NVIVO to sort out the key topics discussed during the interviews.
- Interview transcripts are then downloaded from Otter.ai into NVIVO.
- Interviews are read over and coded into nodes based off what is being talked about.
- Examples of nodes include roles of churches and other organizations, displacement, sense of community

Results

Memorable Quotes

Generational Homes, Lack of Insurance, and Lack of Knowledge about Homes

“What we find is a lot of people who are less educated, less understanding of having a home ownership. They might not realize that the home is in their father's name or their grandfather's name. And they don't really have the rights to the home because nothing ever happened and never got cleared. Because when great granddad had it, dad lived in the home. Then great granddad died and Dad just continue to live in the home, everything was on, everything was working, everything was being done. And then grandson lived in it. And it causes a real hardship on the families because it's their home, they own it. But they don't have documentation showing that they own it.” (Pamela Kidwell)

Cascading Impacts after Hurricane Michael

“One thing in the schools, our schools as a teacher, our schools are closed. And then on top of that, during Hurricane Michael and move on, after we even went back to school, because schools had to share campuses. The school day was shorter for kids already. And then on top of the shortened school day, COVID came and it was no school, no interaction. And I think that had an effect on the kids and the teachers. And so, with COVID, too, and supply chain interruptions, that delayed people's houses from getting fixed” (Alissa Gaines)

Complacency

“But sometimes I feel like before the hurricane, it was a little ignorant paradise, you know, and we've been forced to grow up and deal with some of the issues that drainage, boat ramps, whatever trees that were too tall or whatever, you know, our house wasn't up to code.” (Emily Donovan)

Racial Tension and Distrust in Local Government

“So they just, the DOT said we needed to move traffic through the black community and that's what they always do, because there is another way to go through the white community. So they widened that they destroyed all of our businesses, that whole community there and they said they were going to bottle it up but they gave us pennies on the dollar you really need and that destroyed a lot of the community and so a lot of people moved away from their black community and started moving into Lynn Haven, St. Andrews, Millville, Springfield, and other places.” (Peter Alexander of Glenwood)

Poorly Built Houses, Houses not up to Code

“So a lot of these older homes were poorly built. And they were just they just went down just like paper, paper cups. And so that's what the wind that wind event just tore it out. Just about in this whole area, just about every house was that was older than 20 years old were destroyed.” (Peter Alexander)

Old and neglected infrastructure

“Everyone's concerned about the infrastructure, the sewer system here, because it was already outdated. Some, some areas still have clean pipes, there's always some type of some type of main break or something like that it's breaking and causing potholes and sinkholes, and the roads to corrode and lift station failures in that was prior to the storm.” (Elizabeth Hart)

Discussion

Vulnerability can be caused by a variety of factors, which includes a lack of accessible government resources because of the limited information given and the difficulty of accessing that information. With the sewers, drainage, landfills and schools often neglected along with the cities overall weak infrastructure, this leaves the city vulnerable in terms of how well they can respond to disasters. Some causes of the infrastructure having poor performance is complacency within the community and government to fix these issues that they may have, especially before Hurricane Michael. The consequence of this complacency is that after the storm, these pre-existing issues with infrastructure were only amplified. Many buildings are not up to current codes in many areas of the city such as in Glenwood, Millville, and Saint Andrews and this is due to a variety of causes. One cause is the segregation and racial tension during the civil rights era, which has since improved, but still has a long way to go. Another reason for the lack of quality structures is that citizens in these communities don't advocate for themselves in the local government. The lack of participation is due to their distrust in the government can be partially due to the widening of M.L.K. Boulevard, which destroyed many black-owned businesses. The third reason includes generational properties, where ownership is passed down. This is because with ownership of the property not being clear, that interferes with insurance and aid being distributed to the residents of the property. Finally with the recovery process, all factors of vulnerability were amplified by the COVID-19 Pandemic, which increased to the difficulty and vulnerability of those already struggling to recover from Hurricane Michael.

Additional Research Questions:

- How can we help our vulnerable communities within Panama City be more prepared for hurricanes?
- Can building structures and structural integrity be assessed for vulnerability to natural disasters and if so, how?

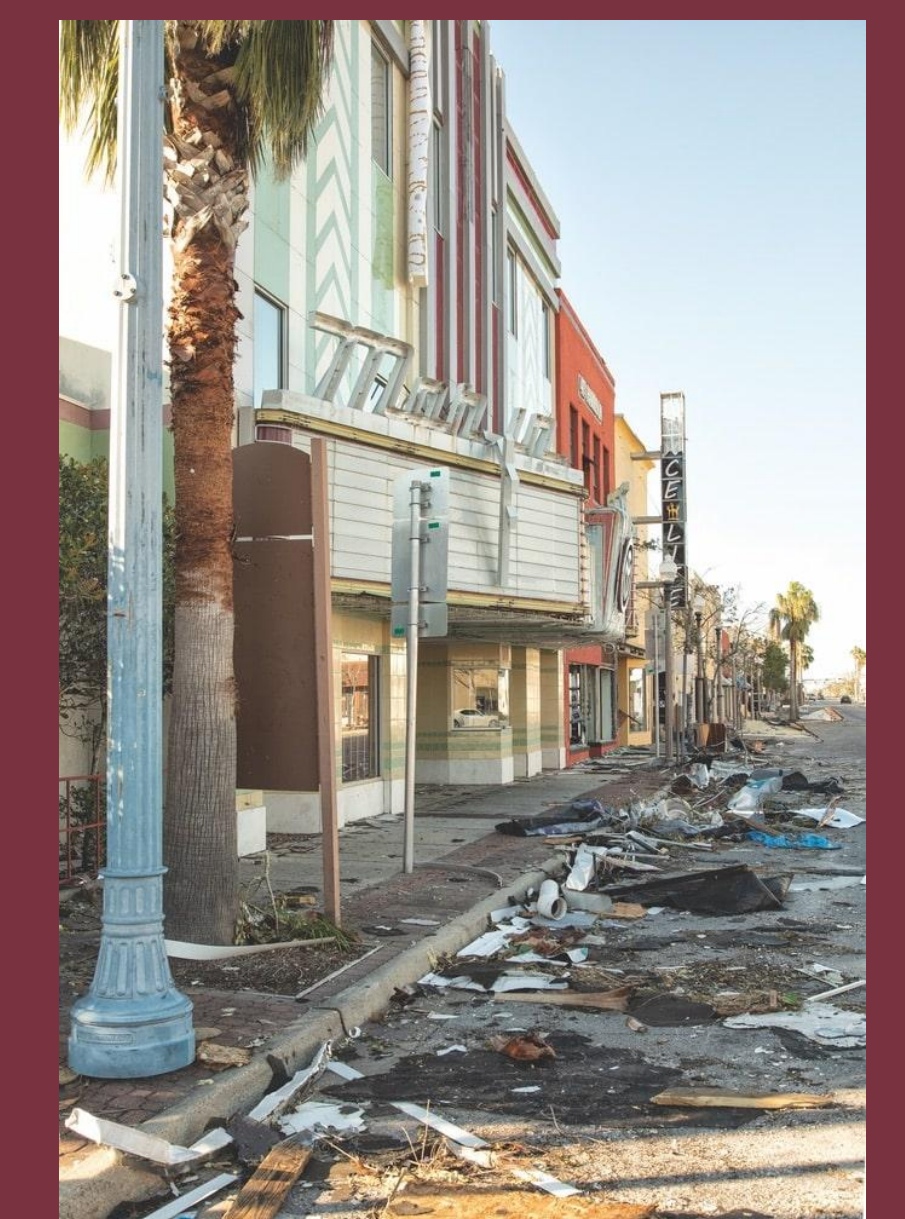


Photo 2. The Martin Theater (a heritage building) was damaged by Hurricane Michael and because of this, the theater was closed for a bit of time. The insurance money for the Theater wouldn't cover the repairs, but the city fought hard to fund those repairs and eventually the theater will be restored.

References

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