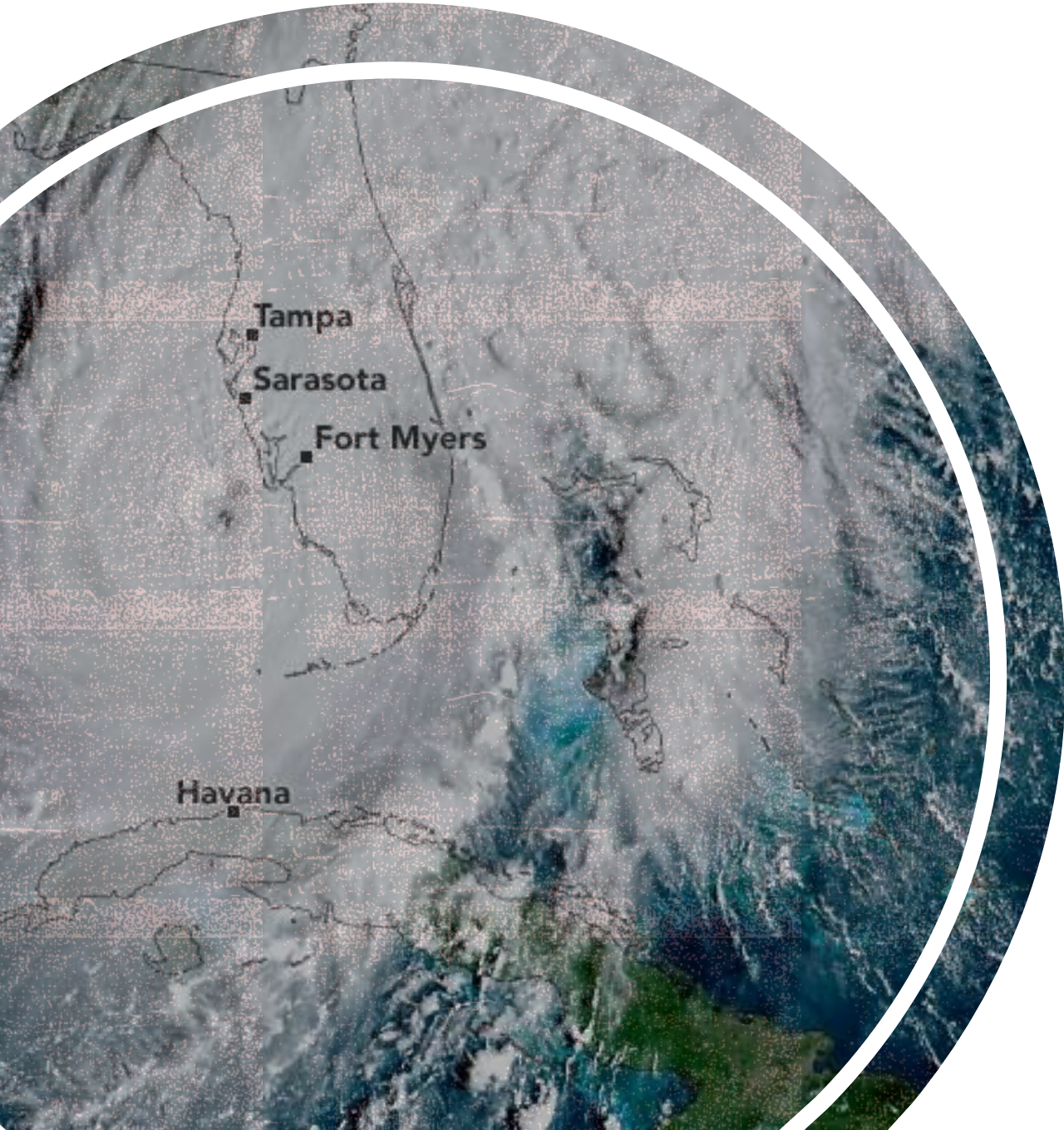


ARTICLE REVIEW: GIS ANALYSIS OF HURRICANES AND DOMESTIC VIOLENCE OFFENSES IN FLORIDA



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BASIC ARTICLE INFO

- **Title:** The first of hurricane: GIS analysis of hurricanes and domestic violence offenses in Florida
- **Author:** Karina Mukazhanova Powell
- **Year of Article:** 2018
- **Focus of article:** This study examines how property loss from hurricanes and tropical storms in 2004 influenced domestic violence rates across Florida counties.



Importance of This Article



From this article, I realized how severe the social impact of natural disasters can be, especially on women who face heightened vulnerability in disaster-stricken areas. Not only do these events cause devastating losses—leaving people injured, homeless, and financially broken—but they also increase the risk of violence against women, compounding their trauma. As someone already fearful of natural disasters, it's heartbreaking to imagine going through such devastation and then being further victimized. It reinforces my belief that change is urgently needed to protect and support people, especially women, in times of crisis.

This issue is critically important to society because natural disasters don't just destroy property—they disrupt lives, displacing people and leaving them vulnerable. The fact that violence against women tends to increase in these situations highlights a painful truth: during crises, the most vulnerable often suffer the most. Understanding and addressing this intersection of natural disasters and domestic violence is essential if we're to build communities that not only recover from disasters but also support and protect everyone, especially those at higher risk. This research calls for more than disaster relief; it demands societal change and better safeguards to prevent violence in times of crisis.



KEY TERMS

- **Social devastation** refers to the severe, often widespread disruption and breakdown of a community's social structure, stability, and well-being. This can be caused by natural disasters, economic crises, or conflicts, which leave lasting impacts on individuals and communities. Social devastation affects people's lives by causing physical harm, displacing families, creating financial hardships, and leading to emotional trauma. It also weakens social support systems, increases poverty, and can lead to a rise in issues like crime, unemployment, and domestic violence. It disrupts the social fabric and hinders a community's ability to thrive and rebuild effectively.
- **Domestic violence offenses** are acts of abuse or control within a domestic setting, such as between partners or family members. These offenses include physical, emotional, sexual, and financial abuse, aimed at harming or controlling the victim. They can have serious, lasting impacts and often increase during crises, like natural disasters, due to heightened stress and vulnerability.
- The term **natural disaster** refers to a sudden, catastrophic event caused by natural forces that results in significant harm to people, property, and the environment. Examples include hurricanes, earthquakes, floods, wildfires, and tornadoes. These events often lead to fatalities, injuries, property destruction, and displacement, disrupting communities and causing lasting social and economic damage.



SUMMARY OF LITERATURE REVIEW

- In the literature review, I discovered compelling insights. International research highlights that women are more likely to face assault, injury, or even death at the hands of a current or former partner than from any other person (Ellsberg and Heise, 2005). Studies also reveal that intimate partner violence survivors in post-disaster periods encounter specific barriers, such as limited access to safe housing, the loss of community networks, and other post-disaster challenges. Additionally, research shows that disaster-affected communities go through a cyclical process with four stages: mitigation, preparedness and planning, emergency response, and recovery and reconstruction (Leithner et al., 2011).

THEORY

- In the article, the author frequently refers to social disorganization theory, which explains how a breakdown in social structures and community stability can lead to higher rates of crime and deviant behavior. This theory suggests that in communities facing issues like poverty, frequent population turnover, or weakened social networks, there is reduced social control and cohesion, making it harder to maintain order. As a result, these communities often see an increase in crime, violence, and other social problems, particularly in times of social or economic stress, when the community's ability to support and protect its members is further weakened.

HYPOTHESES

The author's hypothesis is that property loss during prolonged hurricane periods can trigger motivated offenders to engage in domestic violence. The study's purpose is to examine the spatial distribution of domestic violence incidents across Florida counties as a consequence of natural disasters, specifically focusing on how property loss from hurricanes and tropical storms in 2004 correlates with domestic violence rates.

METHODS

- The methodology focuses on Florida and draws data from two key databases. First, the study uses the Spatial Hazard Events and Losses Database for the United States (SHELDUS) to gather information on hurricanes and tropical storms and their effects on Florida counties. SHELDUS provides county-level data on natural hazards, including property loss, crop loss, injuries, and fatalities from hurricanes and tropical storms in Florida, dating back to 1960. Second, domestic violence data specific to Florida counties is sourced from the Florida Department of Law Enforcement.
- Using GIS and spatial statistical methods, including spatial cluster analysis, the study aims to create a vulnerability map to identify patterns in domestic violence incidents. This map will help visualize the relationship between property loss due to hurricanes in 2004 (independent variable) and domestic violence rates (dependent variable), particularly for vulnerable groups like women, racial and ethnic minorities, and the elderly. By employing ArcMap, the study can observe how domestic violence incidents may have spiked during and after the hurricane season.



GIS IN THIS STUDY

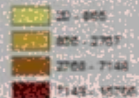
The Impact of Property Loss Due to Hurricane Charley
in Florida in 2004 on Domestic Violence Offences

- In this study, GIS was used in several key ways to analyze the relationship between property loss and domestic violence incidents in Florida counties during and after hurricane events. First, GIS helped create a vulnerability map using ArcMap, which visually represented the spatial distribution of domestic violence incidents and property loss. This map allowed researchers to observe patterns, such as some counties with high property loss also experiencing higher rates of domestic violence, while others with similar losses did not.
- GIS and spatial cluster methods revealed that variation in domestic violence rates could be influenced by other factors, such as local disaster management effectiveness, population income, age, evacuation procedures, law enforcement presence, and the operation of domestic violence shelters. The study also examined the impact of Hurricane Irma in 2017, using GIS to show that while there was no consistent relationship between property loss and domestic violence, areas heavily affected by the hurricane (central and southeastern Florida) had higher rates of domestic violence. This demonstrated a recurring trend in which regions experiencing significant property loss during a disaster tended to see higher domestic violence rates.

Impact of property loss on domestic violence offences 2004

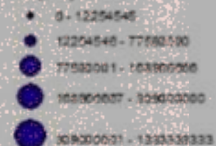
Domestic Violence offences in Florida 2004

DV



Property loss due hurricane in Florida 2004

Property Loss





FINDINGS / CONCLUSIONS

. The article concludes by emphasizing that women and children in Florida are particularly at risk during hurricanes due to the increased likelihood of domestic violence. The study found a modest correlation between property loss from prolonged hurricanes and higher rates of domestic violence in Florida counties. However, given the complexity of both natural disasters and domestic violence, the article suggests that future research should account for control variables such as the effectiveness of local disaster management, income levels, age distribution, evacuation plans, and law enforcement presence. It also recommends gathering qualitative data from surveys and interviews with those directly impacted by hurricanes.

The article further concludes that developing vulnerability maps can provide insights into how natural disasters affect family dynamics and intimate relationships. With further improvements, the study could offer crucial safety planning recommendations for vulnerable groups and raise awareness, ultimately contributing to the creation of disaster-resilient communities that focus on maintaining social and family connections during and after natural disasters.

LIMITATIONS

- Some limitations of this study include the reliance on spatial analysis alone. The use of additional statistical tools, such as logistic regression, could have provided more precise insights to better support the study's hypothesis. Furthermore, previous research did not directly examine the relationship between property loss due to hurricanes and domestic violence. Given the complexity of both natural disasters and domestic violence, future research should incorporate control variables that influence both the post-hurricane recovery process and domestic violence rates in specific regions. Additionally, collecting qualitative data from population surveys and interviews with shelter residents who were directly affected by hurricanes could offer valuable perspectives for further investigation.



RECOMMENDATIONS FOR FURTHER RESEARCH

- The author suggests future research should focus on:
 - **Qualitative Data:** Gathering surveys and interviews from shelter residents to understand the experiences of those directly impacted by hurricanes.
 - **Social Behavior:** Investigating the changes in social behavior after natural disasters to identify causes and patterns.
 - **Implications for Law Enforcement and Disaster Management:** Using findings to improve disaster response strategies and law enforcement preparedness.
 - **Control Variables:** Including a variety of control variables to provide a deeper understanding of factors affecting behavior during and after disasters.



[Photo on Slide 1](#)

[Photo on Slide 2](#)

[Photo on Slide 3](#)

Powell, Karina M. The First of Hurricane: GIS Analysis of Hurricanes and Domestic Violence Offenses in Florida, 2018.

SOURCES

