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Local Disaster Resilience

Administrative and Political Perspectives

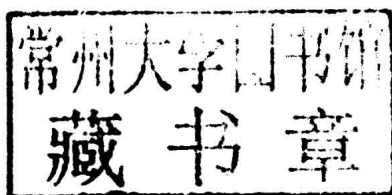
Ashley D. Ross



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"Ashley D. Ross has done those of us who think resilience has meaning in disaster recovery a great favor. This book establishes the definition of resilience in a nuance and important way. No longer are we left with a rudimentary discussion of resilience. Ross has attached methodological heft to the meaning of resilience. Going forward, we can discern just what can be termed a resilient response to disaster and what is not."

—Roland V. Anglin, *Rutgers University*

"Ashley D. Ross is a rising star among the next generation of scholars who study natural hazards and disasters. Her book represents an important contribution to the field, effectively filling a niche in how emergency managers and elected officials perceive their own community's disaster resilience relative to an empirical assessment of local resilience in these same jurisdictions. Her findings are particularly relevant to our emerging understanding of this often misunderstood concept, while providing key insights into how we can improve our national policy in order to better assist local communities achieve this still elusive aim."

—Gavin Smith, *University of North Carolina
at Chapel Hill & Executive Director,
Department of Homeland Security Coastal
Hazards Center of Excellence*

Local Disaster Resilience

In the past decade, the Gulf Coast states—Texas, Louisiana, Mississippi, Alabama, and Florida—have experienced a series of natural and manmade disasters, including the unprecedented events of Hurricane Katrina and the BP *Deepwater Horizon* oil spill, that not only devastated the region but also called into question our national emergency management system. In response to the missteps and failures in management surrounding these focusing events, government agencies and policy practitioners have looked to recast emergency management. Community resilience has emerged as a framework to facilitate improvements in preventing, managing, and recovering from disasters. Despite the promotion of resilience, a shared understanding of the concept and how it is applied on the local level where it is purported to develop remains limited. *How is disaster resilience perceived by local government officials and translated into disaster management practices?*

Ashley D. Ross systematically explores disaster resilience through secondary data sources and original surveys of county emergency managers and elected municipal officials. She creates and analyzes a measure of capacity for disaster resilience that spans 75 Gulf Coast counties. Additionally, she assesses perceptions and experiences of local officials across 56 counties and 122 municipalities in the Gulf Coast region. The findings of these analyses shed light on how resilience is understood by local officials and on the attributes and circumstances that facilitate the development of resilience on the local level.

Local Disaster Resilience fills a critical gap in the literature by applying existing theories and models to a region that has experienced the worst disasters the United States has faced in the past decade. It also provides tools to advance our knowledge of disasters in an interdisciplinary manner by offering county-level data and teaching guides on Gulf Coast disaster resilience.

Ashley D. Ross is an Assistant Professor of Political Science at Sam Houston State University. Her research focuses on comparative public policy with an emphasis on local governments. In addition to this work on local disaster resilience, her research has examined decentralization in Latin America, education policy in Texas, and environmental policy among municipalities in Costa Rica.

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This book is dedicated to my grandmother, Tanalita Palm, who taught me at an early age to explore the world through reading and writing. I know she would have been pleased to read this.

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1 Introduction

Local Disaster Resilience

Community resilience to disasters is fundamentally local. Commonly referred to as “bouncing back,” disaster resilience involves the strengths a community develops to prepare for, respond to, and recover from disasters. These strengths are reflective of the community population—their economic resources, health, mobility, and activity in local groups. They are also comprised of the institutions and infrastructure the community has developed to prepare for disasters as well as the measures taken to protect the environment. But what makes resilience inherently a local phenomenon is the collective action these strengths empower. The most important aspect of community disaster resilience is the way it enables change through the design of local solutions to local problems. It, therefore, is a way to frame capacity-building needed to be ready for a disaster and an approach to inclusive, collaborative decision-making following a disaster event. In this regard, resilience is an incredibly important resource. Unfortunately, this resource has not been fully tapped. The concept of resilience is fuzzy, and the conditions that facilitate its development are not entirely clear. It is the aim of this book to deepen our understanding of resilience by applying the concept to localities across the Gulf Coast in an effort to answer the big question: *How is community disaster resilience understood and practiced on the local level?*

Why the Gulf Coast? The localities along the Gulf of Mexico coast in the states of Alabama, Florida, Louisiana, Mississippi, and Texas have experienced the worst natural and environmental disasters in our nation’s history with Hurricane Katrina in 2005 and the BP *Deepwater Horizon* oil spill in 2010. Remarkably, they have largely recovered from these events and have lessons to share from this. These disaster events as well as others throughout the collective history of the Gulf Coast region have also shaped our federal emergency management framework. To appreciate how resilience fits into this bigger picture, we need an understanding of the Gulf Coast. Even more so, we need perspectives from the local level.

LOCAL PERSPECTIVES

This study examines resilience from the perspective of local administrative and political elites, specifically county emergency managers and municipal elected officials. It is the job of county emergency managers to mitigate their community's risk to disasters and prepare citizens for emergencies. This task is considerable in today's interconnected but bureaucracy-laden disaster management field. It is often constrained by limited fiscal and human resources, unengaged citizens, and conflicting local government priorities. Some of this conflict originates with municipal elected officials, namely mayors and city council members, who tend to prioritize economic development and other issues popular with voters over disaster planning and mitigation. Local political elites' priorities and activities, however, do not always conflict with emergency management goals. Policies and programs spearheaded by mayors and city council members can foster community resilience. Taken together, the two perspectives of county emergency managers and municipal elected officials provide valuable insight on local governance of the development of resilience.

To capture the perspectives of local administrative and political elites, interviews and surveys were conducted with county emergency managers and municipal elected officials to assess their understanding of resilience and the way they manage disasters. Responses to the survey create a sample of 56 counties and 122 municipalities across the Gulf States of Alabama, Florida, Louisiana, Mississippi, and Texas. These surveys are complemented by a dataset that measures capabilities for resilience using secondary sources across a broader sample of 75 counties in the Gulf Coast region.

CONTRIBUTIONS OF THIS STUDY

The county and municipal surveys capturing resilience perceptions as well as the county-level secondary dataset on resilience capacities is used to address gaps in our knowledge of community disaster resilience. The first relates to the inconsistent use of the term "resilience" in emergency management arenas. Some have criticized scholars and federal agencies alike for referring to resilience in multiple and often contradicting ways. This issue is addressed by examining the meanings county emergency managers assign to the concept of community resilience. Examination of shared meanings of resilience gives us an idea of how resilience is understood on the local level.

Another gap in our understanding of resilience is specific to the Gulf Coast. There is also a need for updated assessments of capacities for resilience that are comparable across the region. This study presents a county-level index comprised of the most recent information available and analyzes this data to identify trends linked to variation in capacities. The findings of these analyses can meaningfully inform policy choices to build local capacity for resilience.

Finally, this study addresses the lack of knowledge we have about the conditions that facilitate resilience, particularly collaboration and coordination, during the response and recovery stages of disasters. This is explored through local administrative and political elites' perceptions of disaster response and recovery. Additionally these perceptions are paired with county capacities to delineate the factors that encourage and impede resilient action. The results of these analyses expand our understanding of the local government attributes that develop disaster resilience.

OVERVIEW OF CHAPTERS

Chapter 2 outlines the concept and study of community resilience as both a set of adaptive capacities and an adaptive process. Adaptive capacities refer to the strengths a community has for disaster response and recovery such as a diversified economy, mitigation policies and programs, sound support systems, and protected natural barriers. Community adaptive capacities also involve citizens' social capital and willingness to work together to solve local problems. The adaptive process is characterized by impromptu action, coordination of resources and collective action, engagement of the community, and institutionalizing policy solutions developed during disaster recovery. A conceptual framework is presented specifying how adaptive capacities are translated into the adaptive process when a disaster strikes. Adaptive capacities developed prior to a disaster should enable collective action to respond and recover from the event.

Chapter 3 details the research design of the study. It traces disaster events across the Gulf Coast and ties them to the development of our federal emergency management framework. It also describes the counties and municipalities in the study sample, elaborating on the criteria for the sample as well as the economic and population characteristics of these cases. An overview of the county and municipal surveys is also given specifying the questionnaire themes, the administration of the survey, and the response rate of each.

Chapter 4 answers the question: *How is community resilience understood by county emergency managers?* This chapter outlines how resilience has been treated by federal and state emergency management directives and then compares this to the perceptions of resilience held by local officials. Meanings assigned to resilience by county emergency managers are grouped, and a regression analysis is presented that identifies the county-level factors related to perceptions of resilience.

Chapter 5 answers the question: *What factors explain county-level adaptive capacities for resilience?* This chapter presents an adaptive capacity index for 75 counties across the Gulf Coast that builds on two important models of capacity—the Disaster Resilience of Place designed by Susan Cutter and her colleagues as well as the Community Disaster

Resilience Index designed by researchers at Texas A&M University's Hazard Reduction and Recovery Center. The construction of the adaptive capacity index is detailed including a discussion of its components. Spatial trends in the data are examined, and several propositions regarding which factors influence county adaptive capacity are empirically tested.

Chapter 6 analyzes the adaptive process to determine: *How have the attributes of the adaptive process been evident in recovery to recent disasters?* A case study of response to the BP *Deepwater Horizon* oil spill is offered to illustrate the characteristics of the adaptive process at work. Additionally, coordination during the adaptive process is examined in more detail by looking at the role, activities, and perceptions of emergency managers and local elected officials. Regression analyses are presented that identify the factors associated with good ratings of coordination in past disasters.

Chapter 7 answers: *What factors facilitate local disaster resilience?* Using data explored in the previous chapters, county adaptive capacity is overlapped with perceptions of the adaptive process to create profiles for high, moderate, and low resilience. Additionally, county adaptive capacities are compared to emergency manager perceptions of their jurisdiction's resilience in the event of a (hypothetical) severe disaster to identify the factors related to overestimations of resilience. Chapter 8 concludes the study by connecting the key findings of the chapter analyses to research questions that may be explored by future studies.

This book has features to enable teaching and research on the topic of community disaster resilience. Each chapter poses a series of discussion questions at the end that can be used by instructors in public administration and emergency management courses to further explore the concept of resilience. For researchers, the raw data and method used to construct the adaptive capacity dataset for 75 counties across the Gulf Coast are provided in the appendix. Additional data are also offered in the appendix reporting the various resilience ratings analyzed throughout the book. Sharing this data is motivated by the goal to expand our collective knowledge through the use of comparative benchmarks of disaster resilience. For more teaching and research materials related to this project as well as table and figures related to analyses in this book, visit the website: localdisresilience.com.