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A Comparative Analysis of the Roles Governors Play in Disaster Recovery

Gavin Smith , Lea Sabbag, and Ashton Rohmer

This article examines the roles that governors play in disaster recovery, a topic that remains underemphasized in both the research and practice-based literature. In order to more fully explore these roles, we interviewed former Governors James B. Hunt, Jr. (D-NC) and Haley Barbour, (R-MS), who were in office following Hurricanes Floyd (1999) and Katrina (2005) respectively—two events that represent the costliest disasters in the history of both states. Interview questions were framed across three dimensions of disaster recovery: The rules governing disaster assistance and the degree to which associated programs and policies address local needs, the timing of disaster assistance, and the level of horizontal and vertical integration across organizations that deliver disaster assistance. Additional questions focused on gubernatorial leadership and planning for recovery. Based on the findings, we posit a number of policy recommendations, next steps, and future areas of study.

KEY WORDS: governors, disaster recovery, leadership, planning

灾害恢复中州长所扮演角色的比较分析

本文检验了灾害恢复中州长扮演的角色，这个话题不论在基于研究还是基于实践的文献中都依然未引起足够重视。为更加充分地探索此角色，作者对前州长詹姆斯•B•亨特（James B. Hunt, Jr.，民主党人士，前北卡罗来纳州州长），以及哈利•巴勃（Haley Barbour，共和党人士，前密西西比州州长）进行了面谈，他们在担任州长期间分别经历了飓风弗洛伊德（1999）和卡特里娜（2005）—两次飓风事件都是各州历史上损失最为严重的灾害。面谈中提到的问题由灾害恢复的三个维度组成：第一，用于管理灾害援助的准则，和相关计划及政策对地方需求的处理程度；第二，对灾害援助的时间把握；第三，负责提供灾害援助的不同组织在横向和纵向的一体化水平。额外的问题则聚焦于州长领导力和恢复计划。基于研究结果，本文推定了一系列政策建议、后续计划和未来研究的领域。

关键词：灾害恢复，州长，领导力

Un análisis comparativo del papel que juegan los gobernadores en la recuperación después de los desastres

Este artículo examina el papel que juegan los gobernadores en la recuperación después de los desastres, un tema que todavía no está lo suficientemente enfatizado, tanto en la investigación como

en los textos basados en la práctica. Para poder explorar más completamente este papel, entrevistamos a los anteriores gobernadores James B Hunt, Jr. (D-NC) y Haley Barbour, (R-MS), quienes estuvieron en el cargo durante los huracanes Floyd (1999) y Katrina (2005), respectivamente— dos eventos que representan los desastres más costosos en la historia de los dos estados. Las preguntas de las entrevistas fueron redactadas basándose en tres dimensiones de recuperación después de los desastres: las reglas que rigen sobre la asistencia a desastres y el grado al que los programas y políticas asociadas cubren las necesidades locales, la cronología de la asistencia a desastres y el nivel de integración horizontal y vertical entre las organizaciones que proveen asistencia a desastres. Las preguntas adicionales estaban enfocadas en el liderazgo gubernamental y la planeación para la recuperación. Basándose en estos hallazgos, proponemos un cierto número de recomendaciones políticas, pasos a seguir y áreas futuras de estudio.

PALABRAS CLAVES: Recuperación después de los desastres, Gobernadores, Liderazgo

Introduction

Governor James B. Hunt, Jr. (D-NC): “Look at what your people need. Don’t assume the federal programs are enough.”

Governor Haley Barbour (R-MS): “The one thing you learn from the mega-disaster—somebody’s got to be in charge.”

Disaster Recovery is a complex process, comprised of multiple actors striving to address a range of “wicked problems” (Mitchell, 2006). Nested within what Smith (2011) refers to as the “disaster recovery assistance network” are state agencies and governors, both of which play important, albeit under-recognized, and less understood roles in disaster recovery. A review of the U.S. disaster recovery literature shows that a disproportionate level of attention has been placed on local and federal government actors while a limited effort has been made to understand the roles that states play in this process, including state agency officials and governors (Burns, 2002; Burns & Thomas, 2004; Smith, 2011, p. 45; Smith & Flatt, 2011; Smith & Sandler, 2012; Sandler & Smith, 2013; Smith & Wenger, 2006; Smith, Lyles, & Berke, 2013). This article focuses on the roles assumed by governors during the recovery process, including how their actions influence state agency, legislative, and Congressional decision making and policy formulation. We begin by reviewing the literature on the roles that governors play in disaster recovery. This is followed by a discussion of the research design and methods. Findings, which are drawn from a comparative analysis of two cases in North Carolina and Mississippi following Hurricanes Floyd (1999) and Katrina (2005), are described next. Emphasis is placed on personal interviews with former Governors James B. Hunt Jr. (D-NC) and Haley Barbour (R-MS) who were in office at the time of these events and who led the state’s recovery efforts. Based on the findings, we propose a set of policy recommendations, next steps, and future research.

Literature Review

In the 1970s and 1980s, comparative case study analysis was used to study the recovery process at the *local* level (Friesema, Caporaso, Goldstein, Lineberry, & McCleary 1979; Haas, Kates, & Bowden, 1977; Rubin, 1985). These studies helped to inform future research efforts in later decades that were focused on community-level recovery (Birch & Wachter, 2006; Bolin & Stanford, 1998; Campanella, 2006; Cutter et al., 2014; Greer & Binder, 2017; Olshansky & Johnson, 2010; Peacock, Morrow, & Gladwin, 2000; Schwab 1998; Vale & Campanella, 2005; Seidman, 2013). Research on the role of the federal government in recovery is also extensive and has emphasized the critical review of post-disaster programs (Birkland & Waterman, 2008; Burby et al., 1999; Comerio, 1998; Gotham, 2014; Johnson, 2009; Klein, 2007; Leckner, McDermott, Mitchell, & O'Neill, 2016; May, 1985; May & Williams, 1986; Milet, 1999; Olshansky & Johnson, 2013; Peacock, Van Zandt, Zhang, & Highfield, 2014; Platt, 1999), including the lack of a coherent national recovery strategy (GAO, 2010, 2016; Mitchell, 2006; Smith, 2011; Smith, Martin, & Wenger, 2017; Smith & Wenger, 2006; Topping, 2009). Additional areas of research include federal disaster recovery agenda setting processes (Birkland, 1997, 1998) and policy learning (Birkland, 2006; GAO, 2008; Greer & Binder, 2017; Rubin, 2012).

Little research has been done to explain the roles that states play in recovery, including governors (Burns, 2002; Burns & Thomas, 2004; Sandler & Smith, 2013; Smith, 2011, p. 45; Smith & Flatt, 2011; Smith & Sandler, 2012; Smith & Wenger, 2006). Research on the roles that governors play in emergency management-related activities has tended to emphasize response (Kapucu & Van Wart, 2008; Kapucu, Augustin, & Garayev, 2009; Sylves & Waugh, 1996; Waugh, 2007), and to a lesser extent, recovery activities. Specific areas of attention involving recovery include efforts to obtain presidential disaster declarations (Platt, 1999; Sylves, 2008, pp. 95–98) and Congressional appropriations following extreme events (Landy, 2008; Waugh, 2009). The effectiveness of governors in achieving these aims has been studied in terms of how their actions affect gubernatorial elections (Gasper & Reeves, 2011). Additional areas of recovery-focused study include the assessment of governors as players within the federal-state relationship, viewed through the lenses of shared governance (Koning & Redlawsk, 2016; May & Williams, 1986), historical conflict (Burns & Thomas, 2008), and partnerships (Mitchell, 2006). While each of these studies is insightful, they do not fully unpack a number of roles assumed by governors during disaster recovery. Nor are these roles framed across defining dimensions of recovery.

Past research shows that governors serve as the state's face of the disaster through regular interactions with the media, engender confidence among state and local government officials and disaster survivors, convene post-disaster recovery committees and commissions tasked with identifying issues and needs germane to their constituents, and lead cabinet-level agencies focused on recovery-related activities (Fairhurst & Cooren, 2009; Kapucu & Van Wart, 2008; Smith, 2014a,b). Additional roles include advocating for policy change at the federal level, working with their congressional delegation to seek supplemental funds beyond those provided through traditional relief mechanisms

(e.g., Robert T. Stafford Disaster Relief and Emergency Assistance Act), soliciting external donations and establishing a state relief fund, and convening special legislative sessions to cover the costs of matching requirements for federal grants or the creation of new state programs (Beauchesne, 2001; Rubin, 1985, pp. 17–19; Smith, 2011, pp. 43–49, pp. 55–58; Smith, 2014a,b). The degree to which gubernatorial roles vary across states due to differing contextual factors such as politics, laws, and culture, and the way in which these roles influence disaster recovery processes and outcomes, remains understudied.

Underpinning the roles assumed by governors in recovery are leadership traits that have been found to reduce or exacerbate the negative effects of disasters (Boin & 't Hart, 2003; GAO, 2008; Kapucu & Van Wart, 2006, 2008; Kweit & Kweit, 2006). The study of gubernatorial leadership has gained increased attention following Hurricane Katrina, given the widespread recognition that state *response* efforts were largely inadequate in Louisiana (Menzel, 2006; Mitchell, 2006; U.S. House Select Bipartisan Committee, 2006). In a comparative analysis of gubernatorial leadership in Louisiana (Governor Blanco) following Katrina and California (Governor Schwarzenegger) following a series of wildfires, Fairhurst and Cooren (2009) suggest that a leader's "presence" or conversely, their "absence," has proven difficult to study. In a post-disaster study of autocratic regimes located outside the United States, researchers found that leaders focused their efforts on placing blame or taking credit for actions as part of a strategy employed to navigate social and political challenges (Windsor, Dowell, & Graesser, 2014). Conversely, states that assume a proactive role in recovery has been promoted by some researchers as an antidote to inequity following major disasters like Katrina (Drier, 2006; Gotham & Greenberg, 2008; Hartman & Squires, 2006). Research has also shown that the perception of disaster victims regarding the efficacy of political leadership was influenced by the level of damages they sustained, as well as their gender, income, and educational attainment (Akbar & Aldrich, 2015).

Other studies suggest that leadership in extreme events is influenced by an individual's ability to operate in large networks and draw on varied bases of information and authority, including legal, voluntary, and contractual elements (Kapucu & Van Wart, 2006). Waugh and Streib (2006), building on testimony following Hurricane Katrina and 9-11, argue that leadership, which they define as a combination of "imagination and initiative," requires good information, a coordinated process for sharing it, and a willingness to use that information to spur action (135). Similar findings have been framed in the context of political, administrative (Kapucu & Van Wart, 2008, pp. 714–718; Rubin & Barbee, 1985, p. 62), and transformational leadership (Karaca, Kapucu, & Van Wart, 2012), including the ability of a leader to foster inter-organizational coordination (Mitchell, 2006).

Among the most important, albeit under-recognized inter-organizational relationships in recovery, are those between federal and state actors, including governors (Burns & Thomas, 2008; Smith, 2011, p. 45). State emergency management offices are the primary point of contact with the Federal Emergency

Management Agency (FEMA), which is tasked with coordinating federal disaster relief, including a number of recovery programs. States also serve as a conduit to local governments for funding and associated information regarding these programs. In some cases, states create programs intended to address gaps in federal assistance, although this remains uncommon (Rubin, 1985, p. 17; Smith, 2011, 2014a). The capacity of state agencies to perform disaster recovery tasks vary significantly, and is influenced by long-standing vestiges of the civil defense era (Sylves & Waugh, 1996, pp. 49–50), the lack of a pre-disaster constituency to advocate for a strong recovery policy milieu (Birkland, 1998, 2006), differing levels of political support from the governor's office, and a sense of entitlement surrounding federal assistance (Smith, 2011, pp. 45–49). These pre-event conditions can reduce the impetus to establish a robust pre-event capability as evidenced by state reserves to be used in times of crisis or the creation of appropriate administrative structures to deal with recovery operations (May, 1985, pp. 92–100; Platt, 1999; Smith, 2011, p. 45).

Additional factors influencing state capacity include their level of experience with major disasters and a general lack of understanding among governors and state legislatures regarding the nature of disaster recovery challenges and who is responsible for addressing them (Smith, 2011, p. 45). Governors often develop an *ad hoc* organizational structure after major disasters that is tasked with managing a loosely coupled, often uncoordinated network of organizations involved in recovery, including those that are drawn into the process unexpectedly (Sandler & Smith, 2013; Smith & Flatt, 2011). While we suggest that state recovery plans can help guide inter-agency coordination and collaboration across federal and local government agencies and officials, non-profits, the private sector, quasi-governmental organizations, and others, there is only one known assessment of state recovery plans. The study, which reviewed recovery plans in four states (including plans in North Carolina and Mississippi that post-date Hurricanes Floyd and Katrina), showed that these “plans” were more accurately characterized as a list of federal recovery programs. Much less emphasis was placed on widely recognized planning principles such as goals and associated policies, a fact base upon which to ground proposed actions, inter-organizational coordination mechanisms, pre-event capacity building initiatives, and implementation and monitoring strategies (Sandler & Smith, 2013; Smith & Flatt, 2011).

Further evidence of these gaps on a national scale is reflected in the passage of the Post-Katrina Emergency Management Reform Act of 2006 (PKEMRA) and a Government Accountability Office (GAO) report which highlighted the need for states to develop improved disaster recovery plans. A stated aim of PKEMRA and the GAO report is to enhance the capacity of states to better manage federal assistance and help assist local governments build their capacity to more effectively confront the many challenges associated with this complex process (2008). The PKEMRA required FEMA to develop a national disaster recovery strategy—which did not exist prior to Hurricane Katrina—providing sobering evidence of the lack of attention placed on recovery policy by the federal

government. A key component of PKEMRA emphasizes the need to assist state and local governments develop pre-disaster recovery plans. More than 5 years after Katrina, the National Disaster Recovery Framework (NDRF) had not been fully operationalized (GAO, 2010, p. 6; Smith, 2011), and clear federal guidance for states was not in place.

More recently, FEMA has developed state-level guidance materials and training courses targeting states (2016) and local governments (2017) while the GAO has evaluated the implementation of the NDRF, focusing on the roles of FEMA and states in this process (GAO, 2016).¹ In spite of modest advancements, there remains significant variability regarding the degree to which states and FEMA engage in a coherent, coordinated pre- and post-disaster recovery planning strategy (GAO, 2010, 2016; Mitchell, 2006; Olshansky & Chang, 2009; Olshansky & Johnson, 2010; Smith, 2011; Smith & Sandler, 2012; Smith & Wenger, 2006; Smith et al., 2017; Topping, 2009). More recent research suggests that this is due to the lack of a clear national policy that addresses larger, more systemic challenges, including doing more to build the capacity of state and local governments to plan for recovery (Smith et al., 2017).

Smith (2011) argues that the problems found in practice as well as important gaps in the academic literature can be tied to three dimensions of disaster recovery. These include the degree to which resources provided by members of a disaster recovery assistance network address local needs, the timing of assistance, and levels of horizontal and vertical integration. These dimensions will be described and used to frame the interview questions posed to Governors and their associated responses in the comparative analysis section of this paper.

Research Design and Methods

Next, we describe the comparative case study approach to include site selection criteria, data collection, case study narratives, and data analysis.

Site Selection Criteria and Data Collection

According to Yin (2009), comparative case studies are most useful when assessing a “real-life phenomenon in depth,” recognizing that important “contextual conditions” are key to understanding the given phenomenon (p. 18). Here, the comparative case study research design focuses on governors from the states of North Carolina and Mississippi and the selection criteria is as follows. First, the primary author of this article worked for Governors Hunt and Barbour in the aftermath of each event. Second, the scale of Hurricanes Floyd and Katrina which proved to be the most destructive disaster in each state’s respective history have been characterized as focusing events in the literature (Rubin, 2012, pp. 154–155; Gall & Cutter, 2012) and provides a means to assess the influence of governors in this transformative process. Third, both governors assumed an active role in recovery, undertaking many of the actions described in the literature review, as well as additional actions previously undocumented. Fourth, both governors were highly

experienced political operatives and served at a time when their political party was in power in the state legislature, Congress, and the White House and used this power effectively to achieve objectives that neighboring governors in impacted states did not. Fifth, the governors represented differing political viewpoints (e.g., progressive Democrat and conservative Republican), which was reflected in the way federal disaster assistance was sought and used, the type of state policies and programs developed, and the makeup of each state's recovery committee structure.

Working for both governors (4 years and 2 years, respectively) fostered a unique level of access, trust, and rapport that may not otherwise be available to other researchers, recognizing the need to be careful of personal bias and maintaining a sufficient distance. A researcher's knowledge of the interview subject and their positionality (e.g., comparative status to the interviewer) can help to draw valuable information from elites being interviewed (Mikecz, 2012). Serving as a participant observer has also shown to garner a deeper understanding of the phenomena being studied (Desmond, 2009; Lois, 2003). Efforts to minimize bias was addressed by identifying and analyzing additional sources of evidence, including interviews conducted with nine key respondents, direct observations, and the review of documents. When the sources of evidence did not corroborate one another, further investigation was undertaken in order to triangulate the data (Yin, 2009, pp. 114–118).

The emphasis on major disasters recognizes that they are different from smaller scale events as evidenced by increased complexity, greater public sector management challenges, and the need to embrace flexibility, improvisation, and adaptability (Drabek & McEntire, 2002; GAO, 2008, p. 16; Kapucu & Van Wart, 2006; Quarantelli, 2006; Wachtendorf & Kendra, 2005; Wise, 2006). Both disasters have been described as focusing events, leading to the adoption of new Federal policy (Rubin, 2012, p. 155, pp. 4–5). Understanding the means by which the roles assumed and actions taken by both governors influenced this process is important. The differing political viewpoints assumed by the governors, as manifest in their efforts to influence the rules governing federal assistance and craft state recovery policy, also offers an opportunity to compare the use (and modification) of federal assistance and the means by which their perspectives shaped the creation of new state recovery operations and programs intended to fill gaps in federal policy.

While we recognize the small sample size and unique characteristics of both governors (i.e., highly astute political operatives with uncommon access to political power and influence at both state and national levels of government), we posit that the application of this power and leadership relative to its effect on the larger disaster recovery process merits attention. We also recognize the potential for revisionist history when conducting interviews, especially when speaking with elites (Berry, 2002). These concerns were addressed in two ways. One, semi-structured interview questions were posed to governors and state officials in an effort to unpack the process by which recovery occurred, framed by Smith's three dimensions of recovery. Two, responses were checked against additional sources of evidence including participant and direct observation,

field observations, archival records and documents, and information collected by other researchers.

Future research should involve interviews with a larger, more representative sample of governors and state agency officials, the additional review of documents, and an assessment of each state's recovery plan and other pertinent policies. Interviews with other governors should include those who did not have the same level of influence and political power, nor the state capacity needed to undertake the large-scale initiatives described in the case studies that follow. In addition, future case studies should include differing disaster types (e.g., flood, earthquake, wildfire, etc.), magnitudes, and degrees of impact in order to assess how these characteristics differentially affect disaster recovery processes and outcomes. Garnering a larger sample of governors has the potential to increase the generalizability of the findings, which is not the purpose of this paper. Here we focus on the transferability of findings as described by Patton (1990) and Lune and Berg (2017).

In this article, we focus on the results of personal interviews conducted with two governors to describe their roles and associated actions during the disaster recovery process. The semi-structured interviews, framed by data collected from multiple sources, address the following areas: (i) federal and state funding and policies, including federal assistance programs, congressional appropriations, the creation of state recovery commissions, and state-funded recovery programs; (ii) the three dimensions of Smith's disaster recovery assistance framework (2011), including the degree to which disaster recovery programs address local needs, the timing of pre- and post-disaster assistance, and the level of coordination among federal, state, and local governments; and (iii) leadership, political partners, key challenges, and lessons. Each interview, including those conducted with governors and seven state officials, lasted approximately 1 hour and were filmed, audio recorded, and transcribed.²

Additional sources of evidence included the review of federal and state policy documents created by the U.S. Government Accountability Office, FEMA, and the states of North Carolina and Mississippi, as well as journal articles, newspaper clippings, and books describing these cases. Administrative documents reviewed included proposals, state recovery progress reports, and internal materials generated by state agencies and governor's offices. Direct participant observation, as captured in a personal daily diary and notes by the primary author of this article, was maintained for more than 2 years for both cases. Collectively, these materials were compared with the transcribed interview narratives.

Case Study Summaries

The case study summaries describe Hurricane Floyd and Katrina-related impacts and the actions taken by both governors. While the magnitude and associated damages of these two storms make them unique in terms of their overall generalizability to other, less destructive events, these characteristics also provide insights into each governor's role in the process, including

distinctive challenges and proposed solutions to issues that arise following major disasters.

North Carolina and Hurricane Floyd

North Carolina has a long history of dealing with disasters and the 1990's were particularly eventful. From 1996 to 1999, the state experienced nine Presidential disaster declarations, including the two worst disasters in the state's history. When Hurricane Floyd struck North Carolina in 1999, the state was still in the process of recovering from Hurricane Fran which made landfall 3 years earlier. Hurricane Floyd damages totaled \$6 billion, which remains the costliest disaster to strike the state, eclipsing the previous mark set by Hurricane Fran (Lott & Ross, 2006). Widespread devastation was primarily the result of extensive inland riverine flooding, which left approximately 6,600 square miles of eastern North Carolina underwater. When the storm made landfall, Hurricane Floyd was a Category 2 storm; however, it brought up to 24 inches of rain to eastern North Carolina, an area already saturated from Hurricane Dennis which struck just 2 weeks earlier (Barnes, 2013, pp. 216-217). Approximately 45,000 homes were flooded, 1.5 million people were left without electricity, and 24 wastewater treatment plants incurred severe damage (Smith, 2011, p. 56). Much of the flooding occurred outside the 100-year floodplain and two-thirds of those seeking disaster assistance lived in these areas. Impacts were particularly acute in the agriculture sector, which accrued damages totaling \$1 billion, and led to the loss of 30,000 hogs, 700,000 turkeys, and 2.4 million chickens (Smith, 2014a, p. 195).

Hurricane Floyd exposed a number of underlying conditions that exacerbated the vulnerability of those living in the impacted area. The ditching and draining of wetlands and the construction of roadways bisecting floodplains with inadequately sized culverts contributed to an increased risk of flooding in communities already facing a declining rural economy and a limited capacity to manage the influx of post-disaster aid (Riggs, 2001; Smith, 2011). Additional factors impacting recovery outcomes included the large number of individuals who had limited savings and therefore an inability to qualify for federal disaster loans, as well as the low penetration rate of flood insurance policies among those affected.

The North Carolina Redevelopment Center was established by Governor Hunt to identify unmet needs at the local level, seek Congressional appropriations, and develop state recovery programs to address identified gaps in federal assistance (Smith, 2011, p. 56). At the urging of the three-term governor, North Carolina drew \$836 million from the state's "rainy day fund" and agency budgets to create 22 disaster recovery programs including the State Acquisition Relocation Fund (SARF), North Carolina's Floodplain Mapping Program, the Subdivision Construction Program, and the state's junkyard and hog farm buyout initiative. In addition, the state assumed the management responsibilities of FEMA's temporary housing program, which is typically administered by the federal agency following major disasters (Smith, 2011, pp. 56-58).

The state, working with FEMA and local officials also managed one of the largest single-state acquisition programs of flood-prone housing in the United States, totaling over 5,000 structures when combining those homes acquired following Hurricane's Fran and Floyd. Federal funds used for this purpose included the Hazard Mitigation Grant Program and Congressionally-appropriated Community Development Block Grant (CDBG) funds. The state supplemented "the buyout" program by providing the non-federal match as well as creating a new state program—the State Acquisition and Relocation Fund (SARF). As stipulated under federal law, the HMGP can only pay up to the structure's pre-disaster fair market value. Once the homes are acquired and demolished, the land must remain as open space in perpetuity. This process effectively eliminates future property losses in these areas.

Given the disproportionate impact of Hurricane Floyd on low-income housing, the state created the SARF, which provided up to \$75,000 in addition to the federal funding available through the aforementioned programs (Smith, 2014a, 2017). The primary aim of SARF was to increase the likelihood that eligible low-income homeowners would participate in the risk reduction program by offering sufficient money to help the homeowner move to a home that was not only located outside the floodplain but also in better condition than the one in which they once resided. Information provided by local officials suggests that some SARF recipients were unable to assume the additional costs associated with the upkeep and general maintenance of the housing purchased with the combined federal and state funds.

Governor Hunt's close ties with President Bill Clinton and the director of FEMA, James Lee Witt, also proved highly valuable as he sought to secure financial resources from the federal government (Pearce, 2010, p. 274). This included Congressional appropriations, as well as modifying the rules governing existing Stafford Act programs. Governor Hunt was also successful in leveraging his power and political influence at the legislative level to procure what remains perhaps the most significant creation of state programs following a disaster in United States history (Smith, 2011, p. 57). One of the most lasting outcomes of the recovery effort was the institutionalization of several state recovery programs created after Floyd through a three tiered disaster declaration process which the state used to define disaster types and associated levels of assistance (Smith, 2014a, 2017). In addition, the decision to invest \$22 million toward the remapping of North Carolina's floodplains began what remains an ongoing state program, which is the only one of its kind in the United States as the creation of Flood Insurance Rate Maps has been a federal responsibility since the inception of the National Flood Insurance Program in all other states.

Governor Hunt also used his political acumen to negotiate an agreement with FEMA and the Department of Housing and Urban Development (HUD) that spanned several important grant criteria used to acquire flood-prone housing. These included: (i) the creation of the same eligibility criteria for the HMGP and CDBG programs; (ii) a flood-depth proxy for cost-effectiveness determinations that precluded the traditional use of benefit-cost analysis; and (iii) the use of

SARF and CDBG funds as a non-federal match for the HMGP (Smith, 2017). These policies sped the approval of federal grants and covered the non-federal match requirements, thereby reducing the financial onus on local governments or individuals who are often required to cover some or all of the match in other states. While covering the non-federal match lessens the burden on local governments and individual homeowners, this approach has the potential to reduce a community's commitment to take proactive measures to reduce risk as the costs associated with past land use decisions that placed homes in harm's way are not borne by those that allowed it to occur (Smith et al., 2013).

While the creation of state recovery programs and negotiated agreements with FEMA regarding the modification of federal programs was unprecedented, Governor Hunt's larger vision for a "sustainable disaster recovery" was not fully realized for a variety of reasons (Smith, 2011, p. 58). Specific issues hampering this vision included the failure to develop a comprehensive state disaster recovery plan that coordinated the larger network of those involved in disaster recovery and insufficient emphasis was placed on building the capacity of local governments to administer state and federal assistance (Smith, 2011, p. 57). Ironically, the creation of state programs that were intended to further the aims of sustainable disaster recovery and help low-wealth communities recover, further overwhelmed already overtaxed local officials and the consultants hired by them to administer recovery grants (Smith, 2011, pp. 57-58).

Mississippi and Hurricane Katrina

Mississippi is characterized by a low-lying shoreline, shallow continental shelf that extends well into the Gulf of Mexico, and a high incidence of hurricanes. While hurricane-prone, the state had not experienced a major hurricane since category 5 Hurricane Camille struck in 1969, destroying more than 3,000 homes and causing 144 deaths (Godschalk, Brower, & Beatley, 1989, p. 53). Less severe hurricanes, such as Frederic (1979), Elena (1995), Georges (1998), and Ivan (2004), caused damage along the Mississippi coastline, but did not prompt widespread and lasting changes to prevailing development patterns. During the relative lull in major hurricanes, growth along the Mississippi coastline increased significantly. Between 1970 and 2000, Mississippi's three coastal counties experienced a 52 percent increase in population, with 90,000 new residents moving to the area between 1995 and 2000 (Hearn, 2004, pp. x-xi). The region's vulnerability was further exacerbated by the lack of strong building codes to protect coastal properties, an initiative that was attempted in the wake of Hurricane Camille but failed due to widespread local opposition (Godschalk et al., 1989, pp. 58-62).

Hurricane Katrina's most devastating impacts were caused by its storm surge, which reached heights of up to 30 feet. Over 200 people were killed and more than 70,000 homes were destroyed or suffered severe damage (Smith, 2012, 2014b, p. 340). While coastal communities were the hardest hit, all counties in the state were declared disaster areas and nearly two-thirds were deemed eligible for full federal assistance.

Governor Barbour took advantage of political connections to get much needed funding allocated to one of the poorest states in the country as well as modifying federal programs associated with temporary housing and CDBG. In Washington, DC, the state's needs were championed by Mississippi Republican Senator Thad Cochran who used his influence as chairman of the Senate Appropriations Committee to persuade his colleagues to grant \$29 billion out of the original \$35 billion requested to support a list of recovery efforts that were developed in close consultation with Governor Barbour (Barbour, 2015; Burnett, 2006).

Governor Barbour also spearheaded the creation of two state initiatives intended to coordinate recovery efforts, including the Governor's Commission on Recovery, Rebuilding, and Renewal and the Governor's Office of Recovery and Renewal. The Governor's Commission on Recovery, Rebuilding, and Renewal was led by a native Mississippian and former Chief Executive Officer of Netscape and Chief Operating Officer of Federal Express, James Barksdale. The Commission was supported by a collection of business leaders on the coast including the head of Mississippi Power, editor of the Sun-Herald, the head of Ingalls Shipbuilding, bankers, and a developer who was also the CEO of Viking Range. Additional members of the Commission included state agency and local officials.

Among the most significant efforts undertaken by the Governor's Commission was the hosting of the Mississippi Renewal Forum, a 1-week event held approximately 2 months after the storm, which brought together over 400 architects and other design professionals to assist coastal communities in Mississippi develop design-based plans to guide reconstruction efforts. In addition to the development of plans, architects created alternative temporary housing prototypes, including the original "Katrina Cottage," which inspired the state to seek Congressional funding to construct and deploy alternative housing, replacing those traditionally used by FEMA following major disasters.

Governor Barbour was successful in convincing Congress—working closely with Senator Thad Cochran of Mississippi—to provide \$400 million through a supplemental appropriations bill to create improved emergency housing alternatives for those living in FEMA-provided campers and mobile homes (State of Mississippi, 2006, p. 16). While originally conceived in Mississippi, stipulations were placed on the funds which allowed the states of Alabama and Louisiana to submit competing proposals. Mississippi was awarded \$246 million to construct and deploy more than 3,000 units, resulting in an average cost of \$90,000 per unit (Maly & Kondo, 2013; Office of Inspector General, 2011; Smith, 2014b, p. 349; Smith, 2017, pp. 284–285). The first unit was occupied in June of 2007 (State of Mississippi, 2007, p. 16).

In addition, the Commission wrote the Report After Katrina: Building Back Better than Ever, which outlined 264 policy recommendations spanning ten committees including infrastructure, housing, tourism, small business, agriculture, forestry and marine resources, defense and government contracting, education, health and human services, and non-governmental organizations (Governor's Commission on Recovery, 2005). The Commission also established committees for each of the most severely impacted coastal counties and municipalities.

The Governor's Office of Recovery and Renewal, created after the Commission's work was completed, was led by the primary author of this paper and comprised staff that worked in the Governor's Commission as well as additional hires that lived on the coast. Key aims of the Office of Recovery and Renewal were to help implement the Commission's recommendations, identify local needs and the means to address them, provide communities with up to date information regarding disaster recovery programs and policies, and help build local capacity.

Comparative Analysis

In accordance with the approach described by Yin (2009), we organized the data to facilitate cross-state comparisons and develop a set of broader implications and associated recommendations. In this article, we focus on the comparative analysis of interviews conducted with former Governors James B. Hunt Jr. and Haley Barbour. We analyzed each case separately (determining the role the governor played in the recovery process) and then compared the two cases for similarities and differences. The interview questions were framed by Smith's (2011) three dimensions of disaster recovery as well as elements tied to gubernatorial leadership and recovery planning. We include a more extensive discussion of the dimensions of recovery literature here to ease the reader's contextual comparisons of the dimensions and the interviewee's responses.

Resource Rules and Understanding of Local Needs

A key dimension of disaster recovery is the degree to which resources, defined here as funding, policies, and technical assistance, meet local needs (Smith, 2011). While this concept was originally created to explain the collective delivery of resources across a larger, loosely coupled assistance network (e.g., public sector, private sector, non-profit organizations, quasi-governmental actors, international aid organizations, nations, emergent groups, and individuals), we focus on the resources managed by states, and in this article more specifically, those resources procured, created or influenced by governors.

Narrowly defined federal rules surrounding post-disaster funding can disproportionately drive the trajectory of recovery and states often equate recovery with a targeted focus on the administration of these programs, which may or may not meet local needs (Smith, 2011, p. 35). States can choose to address unmet local needs in several ways. Examples include soliciting feedback from local officials; lobbying for supplemental assistance from Congress; creating a governor's fund to accept donations; creating recovery committees and commissions to enhance a state's capacity to manage recovery resources; hiring temporary, permanent, and contractor-based staff to deliver technical assistance; and creating new state programs (Sandler & Smith, 2013).

Governors Hunt and Barbour expressed the importance of assessing local needs and comparing them with the resources available through traditional federal funding programs. As stated by Governor Hunt:

One of the governor's jobs is not just to be on the air complaining or just sympathizing ... You have to get out there and see it yourself. Then you have to ask the searching questions of the federal officials and your own state officials and the locals. How's it going? What more do your people need? What more can be done?

Governor Barbour also recognized a number of federal shortcomings, including the inability of the Stafford Act's programs to meet local needs following a large-scale disaster:

The Stafford Act does not contemplate the mega-disaster ... it has no decent application to a disaster like Katrina, where you had tens of thousands of homes destroyed. There needs to be a total rethinking of the Stafford Act, even if it's to write a parallel section to the mega-disaster. ... It needs to be done over on things like permanent housing, on things like allowing federal money to be used for housing for labor.

The limits of federal disaster recovery policy and the scale of both disasters led the governors to establish governmental and quasi-governmental organizations to address identified shortfalls. In the case of North Carolina, the Redevelopment Center sought out federal supplemental appropriations and created new state programs whereas Mississippi focused their efforts on the procurement of federal assistance based on needs identified by the Governor's Commission on Recovery, Rebuilding, and Renewal. Informed by input from state recovery organizations, both governors were able to influence changes in federal disaster assistance policies and programs in order to better reflect identified local needs.

According to Governor Hunt:

We found out early on that you've got a lot of different programs. FEMA has a lot of different programs. But they don't necessarily work well together; they aren't necessarily coordinated. You don't necessarily know how much is needed here or there. So we created a redevelopment center, a North Carolina Redevelopment Center.

We assessed what the total needs were going to be over time. We looked at how much we could get done ... under the federal programs. And we realized, even though we were going to Washington [to] ... appeal for more help, we realized that we were going to have to do a lot more at the state level.

Governor Hunt called a special legislative session that led to the appropriation of \$836 million drawn from the state's rainy day fund and agency budgets. These funds were used to create and administer 22 state programs, all of which were set up in a few months.

In Mississippi, the Governor's Commission on Recovery, Rebuilding, and Renewal and later the Governor's Office of Recovery and Renewal, took a more laissez faire approach, identifying needs, and providing information to local officials on federal funds to support recovery, but limiting the creation of new state rules and programs—with one notable exception—the Mississippi Alternative Housing Program (Barbour, 2015). In reference to the Governor's Commission, Governor Barbour states: "...the commission is not going to impose anything. The commission's job is to expose, expose people to different ideas ... different ways things can be done, but not tell the people on the coast they've got to do it."

So we designed this 50-member commission and put it together in about two weeks. Part of the deal was to give people a place to have a voice, to learn what the people down there were thinking, but also, we wanted them to help us identify what wasn't covered, and what might be the best ways to cover certain things.

...the commission served as a sounding board; it served as a place you could go—there were meetings all over south Mississippi. People could go there and they could talk and they could listen, ... but they saw, hey, these people are focused on the future. This isn't about next week; ... what's Mississippi going to be like in 5 years, 10 years, 30 years? ... it gave people hope and confidence.

The Governor's Office of Recovery and Renewal encouraged coastal communities to adopt higher floodplain management standards based on the results of advisory maps developed post-Katrina as well as building codes (which did not exist in the state's coastal counties).³ Unlike the State of Louisiana, Governor Barbour did not push for the adoption of a state-wide building code following Hurricane Katrina, and cited in our interview strong opposition by key members of the state legislature as the reason for his decision. Rather, he encouraged the adoption of new coastal standards and staff in the Governor's Office of Recovery and Renewal delivered this message to coastal officials and residents. Five of the six coastal counties ultimately adopted a building code (State of Mississippi, 2008, p. 7) and all coastal counties adopted higher floodplain management standards.

In some ways, Governor Barbour's actions reflected a hybrid approach to policymaking, blending laissez-faire thinking with the aggressive search for substantial post-disaster Congressional appropriations to fund a mix of individual, public, and private sector initiatives. The strategy adopted by the governor suggests a need to further research this approach which does not fall within the sometimes bifurcated market versus government-centered descriptions of disaster

scholars. It also points to the apparent contradictions in a more conservative political philosophy that espouses limited government intervention on a day-to-day basis with the active pursuit of federal aid following disasters.

Governor Barbour focused on the procurement of supplemental federal appropriations to help implement many of the recommendations found in the Governor's Commission report, ideas proposed during the Mississippi Renewal Forum, and initiatives promulgated in the Governor's Office. These included federal funding to pay for infrastructure investments north of Interstate Highway 10 (outside of the storm-surge ravaged areas) in order to encourage development in less hazardous locations, the funding of port infrastructure, and several housing-related activities, including the Homeowners Assistance Program, Elevation Grants, the repair of damaged public housing, and the creation of the Mississippi Alternative Housing Program (State of Mississippi, 2007, p. 14).⁴

According to Governor Barbour:

They [the Mississippi alternative housing units] were phenomenally better, and I believe if you took a three-year view, they weren't much more expensive than a mobile home, and they weren't even much more expensive than a travel trailer. I'll never forget the first person [that] moved in one. Lady, 70, French name, coast accent, east Biloxi. ... She said she'd lived all her life in this area of east Biloxi, just a stone's throw away from right here. And then she said, "This is the nicest house I've ever lived in."

Timing of Assistance

The development of state recovery policies and programs entail important temporal dimensions and understanding the disaster recovery process requires unpacking these elements. Following disasters there is an intense pressure to act quickly, often driven by a desire to return to pre-event conditions or sense of "normalcy" (Olshansky, 2006). Yet returning to what once existed before the disaster may perpetuate or even exacerbate risk, inequity, a degraded environment, and a weak economy. Efforts to use the disaster recovery process to "restore, reshape, and rebuild" the physical, social, economic, and natural environment in a more sustainable and resilient manner (Smith & Wenger, 2006, p. 237) benefits from a more proactive and deliberative process (Campanella, 2006; Ganapati & Ganapati, 2009; Olshansky & Chang, 2009; Smith, 2011), including those actions undertaken at the state level.

Understood in a temporal context, Governor Hunt discussed the value of learning more about disaster recovery programs in advance of Hurricane Floyd:

We ought to tell people what the rules are. ... It's our government. It's our FEMA. Why don't we prepare just as we'll prepare by putting water and food out there and shelters and all that stuff? Why don't we prepare

by informing local people about how the FEMA programs work well in advance?

The disaster recovery process has also been characterized by the notion of “time compression” as the multitude of decisions surrounding the repair or reconstruction of damaged infrastructure, housing, and other components of complex human settlements are compressed into months or years when pre-event decisions that shape community form may have taken decades or even centuries to achieve (Olshansky, Hopkins, & Johnson, 2012). Further compounding matters is that decisions made by state and local governments are often undertaken with limited and changing information about the scope and type of damages sustained, grant eligibility, private sector reinvestment decisions, and the return of residents; and limited resources are devoted to proactively plan for these uncertainties and associated challenges (Smith, 2011, p. 17).

Governor Hunt discussed the temporal challenges of recovery, including unrealistic expectations and the role of Governors:

So it's a body slam for a while. And what you want to do is . . . to meet the needs to rebuild and to do it quickly so that you can limit it instead of taking five years to come back you can do it in two and a half or three years. By the way, that's probably as fast as you can do it in many cases. People think you can get over it all of a sudden. You're not. But you've got to be prepared; you've got to have a redevelopment commission; you've got to have enough funds; the governors got to give it constant leadership, and stay on people.

The timing of resource assistance across multiple stakeholders also has significant implications, including the ability of states to serve as an intermediary, bridging local needs and capabilities, with the delivery of federal and state programs in both pre- and post-disaster timeframes. For instance, the timing of a state's delivery of technical assistance, such as explaining federal grant eligibility, conducting training on their implementation, soliciting an understanding of local unmet needs, creating state recovery programs, and developing disaster recovery plans can significantly affect a local government's ability to recover.

At the local level, learning the nuances of post-disaster assistance requires simultaneously confronting multiple issues. Examples include assessing the merits of adopting a temporary development moratorium in order to give a community time to consider varied redevelopment options or develop a post-disaster recovery plan; contracting with debris removal companies and overseeing their efforts; restoring water, sewer, and power to affected areas; hiring additional staff to write and implement grants; and adopting more rigorous codes and standards or relocating structures in hazard-prone areas to less vulnerable locations.

Governor Barbour described the temporal complexities of recovery through the lens of state-level partnerships with local officials when he stated:

I remember ... time and time again having it reported to me that in some beach community, that people had started rebuilding their houses, so we laid the water and sewer down. And then some guy ... tore his house down and broke the water and sewer [line]. And there's many a time we took the same water and sewer lines and fixed them again, but we didn't want to tell people, "You can't start rebuilding yet." And at the same time, we couldn't make people clean up until they were able to get their insurance money or be able to come to grips with it.

While the example is indicative of actions taken at the individual household and community level, it also reflects the challenge of coordinating federal, state, and local efforts, referred to in the third dimension as vertical integration.

Horizontal and Vertical Integration

Horizontal and vertical integration has been used by a number of scholars to describe inter-organizational activities in disaster recovery (Berke, Kartez, & Wenger, 1993; May, 1985; Smith, 2011). Horizontal integration is typically defined as the coordinative actions of local government, non-profits, quasi-governmental groups, small businesses, and others located at the community level. Vertical integration is reflected by the level of coordination between federal, state, and local levels of government. We suggest that the definition of horizontal integration can be modified to assess the level of coordination across state-level agencies and organizations (Smith & Flatt, 2011; Sandler & Smith, 2013) and in this article we analyzed this type of coordination. Our evaluation of vertical integration included assessing the role of the state as a lynchpin between federal and local actors, emphasizing the role that governor's play in this process.

Governor Barbour provided unique insights in this process when describing his role in coordinating recovery efforts:

I had to lead people who did not work for me, who did not report to me, who didn't have to do what I said. And in the mega-disaster, I think people understand, I can't go be pig-headed and dig in. Somebody's got to be in charge, and I'm going to cooperate with the guy who's in charge as long as we're making progress. But it's a very important thing about the mega-disaster, and that is you're ... dealing with people who do not have to do what you say.

Governor Barbour's comments reflect some of the challenges associated with horizontal and vertical integration at the state level. Earlier research in inter-governmental coordination suggests that states do not possess the capacity to fulfill important roles in the federal-state partnership, and that this creates a strong state-level dependency on federal aid (May, 1985, pp. 92–95). Rubin and Barbee (1985) note that state-local relations are often strained due to the limited ability of state agencies to deliver adequate technical assistance regarding federal

grants administration or provide state funding post-disaster (p. 58). Perpetuating this asymmetrical relationship is the limited emphasis placed on pre-event capacity building at the state-level, including a governor's awareness of state roles. As described by Governor Hunt:

I think North Carolina did a pretty good job of coordinating our state resources with the feds. One of the problems was a lot of our people [state officials] didn't know what the fed rules were. And certainly the people out there [local officials, community organizations, and disaster survivors] didn't know. And some of them [resources] didn't appear to be reasonable or helpful enough.

Richard Sylves points out an inherent challenge facing governors regarding the delivery of post-disaster technical assistance in that most states are dependent on federal funding that is often limited and subject to change over time (Sylves, 2008, p. 136). The willingness of states to use their own resources to accomplish recovery goals is highly variable and often inadequate. May (1985) suggests that the role of state governments in the "intergovernmental disaster relief diplomacy" arena is hampered by the diffusion of responsibilities across state agencies, the limited political visibility of state emergency management agencies, an unwillingness of states to increase the level of state resources committed to recovery programs, and a closely connected sense of entitlement when it comes to post-disaster assistance (pp. 97–98). Even though these observations were made in 1985, they still hold true today in many states which further highlights the lack of attention placed on this relationship by practitioners and hazards scholars (Smith, 2011). In the case of North Carolina and Mississippi, two states that have added to their recovery capacity in terms of both organizational structure and policy change, some limitations remain.

While Governor Hunt recognized the important role of the state as capacity builder, he lamented the need to do more to develop the administrative capacity of state officials to deliver guidance as well as enhance capacity among local officials charged with the implementation of new state recovery programs on the ground:

The state programs we developed were very important and very good. We supplemented things in a way that had never been done before. And thank goodness we were able to do that [state assistance programs]. We did not probably supplement enough ... in providing enough help to get the job done.

Understood more broadly, the activist stance taken by both governors represents an alternative to May's assertion that states are "weak allies" in the federal-state recovery relationship, although anecdotal evidence suggests that this is often the case. Taking an active role in recovery was evident in North Carolina as the state assumed the non-federal match requirements of post-disaster grant

programs, negotiated modified eligibility requirements for hazard mitigation funds, and created and codified via legislation, state programs designed to address gaps in federal recovery assistance, including the creation of Flood Insurance Rate Maps and the management of the temporary housing program—both of which are traditionally a federal responsibility. In Mississippi, the governor created a 50-member state recovery commission which undertook what remains one of the most extensive design-based recovery planning initiatives, lobbied for and received Congressionally-appropriated funding to build and manage temporary housing alternatives, and was successful in altering the focus of post-disaster Community Development Block Grant (CDBG) funds on low-income housing, to include infrastructure and economic development projects.

Gubernatorial Leadership

As evidenced in the previous section, gubernatorial leadership has the potential to impact the three dimensions of disaster recovery described in this paper. Next, we further describe how Governors Hunt and Barbour sought solutions to the problems that they, their staff, and local officials and residents identified, using data to frame their vision of recovery and coupling this information with strong political connectivity to those in positions of power. This approach was used to secure funding and programmatic changes at the federal and state level that were less evident in neighboring states that received disaster declarations for the same events.

Referencing the way in which the State of Mississippi was able to procure federal funding to design and test temporary housing alternatives, Governor Barbour stated:

...people need to understand why this happened, and FEMA resists it to this day. Congress jammed it down their throats, you know; made them do it.

While the state was successful in obtaining funding to implement what they saw as a substantial improvement in temporary housing, the alternatives created and tested in Mississippi following Hurricane Katrina were not used in future events. Rather, FEMA has returned to the use of mobile homes. This may be due, in part, to the limited involvement of FEMA in the design and implementation of the state program, ongoing contracts with mobile home manufacturers who opposed the idea, and a reluctance by the federal agency to engage in permanent housing solutions, preferring instead to focus on temporary housing post-disaster (Smith, 2017). The public policy literature, including that associated with leadership in crisis, suggests that exploiting the post-disaster window of opportunity to affect systematic, enduring change without building a broad constituency of support is likely to result in a return to previous conditions (Boin & 't Hart, 2003; Mitchell, 2006, pp. 238–239) and the Mississippi Alternative Housing program appears to be a casualty of this form of bureaucratic inertia.

Accessing state funding or creating new state policy requires a similar political skill set to that used when seeking federal resources, albeit understanding the subtext of state-level politics. Key actions include the ability to draw a clear picture of needs, marshal support from political partners, and convince potential skeptics (Pearce, 2010, pp. 272–276). According to Governor Hunt:

I personally invited all of the legislators to come to the governor's mansion. We talked about the situation. And we laid out for them what the cost would be to rebuild, to recover and rebuild. ... So then I called a special session of the state legislature, in a state that rarely has one.

Hurricane Floyd, which devastated the eastern third of North Carolina, left the remainder of the state relatively unscathed. This required the governor to persuade legislators that represented constituents located outside of the impacted area that the proposed state appropriations were worthwhile.

We got ... a third of the legislature from that part of the state to tell their stories ... We took bus tours into the affected area. And as governor I pushed with all my might and all of my friends and all of the contacts I had to get them to take this action to help build the state back.

That's what you have to do. You cannot be distant and formal and, "We'll have our agencies work on this." No. The governor has to get in there, roll up his sleeves, get out there, see those disasters every day, be able to tell the fresh stories, and ... explain why it's good for the state and critical in helping the people. And then push and not take no for an answer ... and make damned sure they do what they ought to do.

Both Governors were long-standing, highly adept political actors with unique access to high-ranking decision makers in the federal government. Governor Barbour served as political director under President Ronald Regan, chairman of the national Republican Party, a key player in the party's takeover of Congress in 1994, and a high-powered Washington, D.C. lobbyist prior to becoming Governor.⁵ During Hurricane Katrina, Senator Thad Cochran (R-MS) led the Senate Appropriations Committee responsible for funding supplemental disaster assistance appropriations. A three-term Governor when Hurricane Floyd hit, James B. Hunt, Jr. had already built an extensive political network across the state and in Washington. Among his most important relationships in the Capitol included North Carolina Representative David Price (D-NC), who was the co-chair of the House committee responsible for the oversight of post-disaster appropriations and President Bill Clinton, who was the former Governor of Arkansas during Governor's Hunt's second term in office. The importance of access is evident in comments from Governors Hunt and Barbour respectively:

Well, when we had Hurricane Floyd I had very strong relationships with James Lee Witt, the head of FEMA ... because we'd had so many disasters and I got to know him quite well, and President Bill Clinton who I'd been governor with ... so I could get to them. And I could tell them my story.⁶

...by God's grace, I had spent part of my career as a lobbyist in Washington, and I knew most of the people involved. I had a political career that put me in touch with most of the people involved, so that helped me in winning people's confidence and being willing to support me...

One of the key tasks following a major disaster involves seeking supplemental federal assistance from Congress, a point not lost on Peter May who suggests that state agencies often defer to the Governor's Office to negotiate disaster relief policy after a major disaster (May, 1985, p. 97). This process requires a blend of tenacity, persuasion, influence, and political power. As stated by Governor Hunt:

I went to Congress week after week after week for more than a month. I sat down and I got my U.S. Senators to take me around to see the right people and leading members of the House to describe what happened. Because up in Washington they don't necessarily know. It isn't just a matter of somebody putting a bill in Washington. It isn't just a matter of some kind of general talk. You have to go there. You have to see the people. You work with your FEMA officials and all the others. But you have to really tell the story in the strongest personal way that you can. And then tell them what you think ought to be done.

Mississippi was widely recognized as having received more assistance relative to the damages they sustained when compared to Louisiana (Schatz, 2005). Part of this was due to the loss of credibility when the state of Louisiana sought more than \$250 billion in aid, much of which was considered political pork (Grunwald & Glasser, 2005). As stated by Governor Barbour:

Late in September, a little less than a month after the storm, Louisiana comes out with their Pelican Plan. They asked the federal government for \$250 billion for Louisiana, and they listed the things they wanted to use it for, most of which had nothing to do with the hurricane, had nothing to do with Katrina. And it was the worst day of the post-Katrina period to me, because I had all the congressman and senators that were my friends that called and said, if you think that's what the government should do, then you're crazy, and that ain't going to happen.

So what we did, we . . . started learning, and we had started determining —my staff, working with Senator Cochran's office, and the other Mississippi delegation people, and with FEMA, for that matter—what comes in a FEMA package, what doesn't come in the FEMA package. Let's identify what's not going to be covered, and then . . . let's figure out the best ways to try to get those [needs] covered through some special legislation. We worked with the White House, we worked with . . . FEMA, we worked with OMB [Office of Management and Budget].

The dual facets of political and administrative leadership provide an important context to frame the process by which a state's vision of recovery is operationalized. The broad aims of recovery are often initiated by the governor after a disaster strikes and acted upon through administrative processes and organizations created and overseen by the state's top executive. Good leaders in the post-disaster setting, as in other complex decision-making milieus, see it as among their roles to help foster a vision of the future that others can act upon, drawing on information and data provided by a range of interests. Mitchell suggests that the complexities of disaster recovery and the long-standing pre-event conditions that are exposed following crises are such that we may attach "a disproportionate level of importance on individuals" when in fact larger "structural and contextual factors" are at play (234). The willingness of leaders to move beyond narrowly defined actions to tackle the root causes of disasters remains a national challenge (Mitchell, 2006, p. 235). Governors have a key role to play as leaders operating in disaster settings and those who are not competent actors in larger recovery networks are less effective in achieving desired outcomes than those who are actively engaged in the process (Kapucu & Van Wart, 2008, p. 714).

Planning for Disaster Recovery

Planning provides a potential, although largely unrealized process that can bridge political and administrative domains when grappling with recovery, including complex pre- and post-disaster conditions (Smith & Wenger, 2006; Smith et al., 2017). The practice of good planning has been described as a communicative, inclusive, and empowering process (Forester, 1982; Habermas, 1984; Innes & Booher, 2004, 2010). Planning has also been criticized as unable to effectively confront root causes of disaster and dominant land-based power structures in place, including those that reassert themselves after a disaster strikes in both the United States and in other countries (Freudenberg, Gramling, Laska, & Erickson, 2009; Ganapati & Ganapati, 2009; Geipel, 1982; Nelson, Ehrenfeucht, & Laska, 2007; Oliver-Smith, 1979, 1990; Oliver-Smith & Goldman, 1988; Welsh & Esnard, 2009). While it is not the intent of this article to unpack planning theories and their varied critiques, we suggest that planning has always had to address these concerns, with varied levels of success. The limited academic literature on

state recovery planning (Smith, 2011; Smith & Flatt, 2011; Smith & Sandler, 2012; Sandler & Smith, 2013) and the impact of these plans on recovery outcomes suggests that more research is needed in this area. In practice, there remains limited guidance regarding what state recovery plans should entail, although this has recently changed with the creation of federal materials targeting state government (FEMA, 2016; Smith et al., 2017).

Both Governors recognized the need to do a better job of state-level planning, yet their contextual understanding of what planning was seemed to differ from what was needed to deal with the complexities of disaster recovery according to the prevailing academic literature (see, for instance, Berke & Campanella, 2006; Olshansky, Johnson, Horne, & Nee, 2008; Sandler & Smith, 2013; Smith, 2011). This apparent misunderstanding was reflected in comments focused on planning for post-disaster *response* efforts, the need to develop disaster recovery committees in advance of an extreme event, and developing a “plan” for the funding needed from Congress. As noted by Governor Barbour:

The first thing that people have to understand is we had a plan. The plan had been being developed since Camille in 1969 ... and when we planned to Camille, we thought we were planning to the worst possible disaster. And of course, Katrina was far, far worse, far, far bigger.

So it was good to have a plan. Our first responders and leaders did better, were more flexible, more able to adjust because there was a plan, but the first thing you've got to remember is, preparation is the first thing, but don't think that you're going to be able to execute your plan just like you planned it.

Governor Barbour described his thought process relative to developing a “disaster recovery plan” three days after Katrina struck:

It was starting to congeal in my head that there were three things that we needed to do to get people to come back and rebuild the coast. They had to have a place to stay, preferably a home, but a place to stay. Second, they had to have work, and third, the kids had to have a place to go to school. And so I assigned my chief counsel and my policy director ... to start developing the plans that would become our ask of the federal government.

Governor Hunt equated planning with setting up an organizational infrastructure to deal with disaster recovery:

I think ... the major challenge for a state is to build the state infrastructure so that you are ready to deal with the disaster effectively. That means you have to plan for it, get ready for it, rehearse for it, practice it. ... if you don't have a state disaster [recovery] center ... you have to have one scoped out so that you can put it in place immediately

with top officials when ... the disaster comes. ... don't look upon a disaster as just an emergency. You look upon it as something that's going to regularly happen. And you have to regularly be ready for it.

The notion of developing a pre-disaster state recovery plan to coordinate the array of stakeholders that include governmental and non-governmental actors was not substantively addressed during either interview even though a series of questions was asked about planning. While North Carolina ultimately created a Redevelopment Center, 22 state-level programs targeting unmet local needs, and the codification of these programs in a tiered state disaster declaration process, a disaster recovery plan was not created in the aftermath of Hurricane Floyd.

Two weeks after the hurricane struck, the North Carolina Division of Emergency Management (who viewed the creation of a recovery plan as a natural role for the Sustainable Redevelopment Working Group established following Hurricane Bonnie in 1998), began to discuss the creation of a post-Floyd recovery plan. These efforts were discontinued at the request of the Governor's Office (Smith, 2011, p. 58). Shortly thereafter the Redevelopment Center was created, which was tasked with the search for additional federal funding and the creation and management of state recovery programs, not the development of a recovery plan that would ... "guide new programs, integrate existing state policies, and involve the larger assistance network in a comprehensive manner" (Smith, 2011, p. 58). One of the clear manifestations of failing to develop a state recovery plan was the limited emphasis placed on building local capacity to confront one of the biggest challenges associated with recovery, namely grants administration. This became an acute problem in North Carolina as the array of state programs, in addition to federal assistance, further overwhelmed already overtaxed local governments and the consultants hired to assist them (Smith, 2014a, p. 58).

In Mississippi, the Governor's Commission report, *After Katrina: Building Back Better than Ever*, outlined local needs and proposed ideas to address them that spanned topical areas including land use, transportation, housing, tourism, small business, agriculture, and natural resources defense and government contracting, education, health and human services, non-governmental organizations, and finance (Governor's Commission on Recovery, 2005). A part of the Governor's Office of Recovery and Renewal's job was to help facilitate the implementation of the Governor's Commission's recommendations. This was achieved by encouraging, not requiring the proposed measures, which led to a somewhat uneven level of success.

Conclusions and Findings

This article has focused on the roles assumed by governors during disaster recovery. Governors serve as the state's principal representative, establish post-disaster recovery committees, lead cabinet-level organizations involved in recovery, advocate for state and local needs, influence the actions of legislative and

congressional delegations involved in the procurement of state and federal funding, and solicit additional assistance. Unpacking these roles was achieved by framing interview questions within three dimensions of disaster recovery: (i) the identification of resources and the degree to which they met local needs; (ii) the timing of assistance; and (iii) horizontal and vertical integration. Additional insights were derived from interview questions addressing how gubernatorial leadership and planning influenced state-level recovery processes.

Both governors understood the importance of assuming an active role in leading recovery efforts. This approach was evident in several ways, including the development of the “institutional infrastructure” tasked with identifying unmet needs and striving to address them. The structure of these groups differed, as North Carolina’s efforts were closely linked to state agency representation, while Mississippi’s Commission was led by a former corporate executive and coastal representatives with close ties to economic development interests, including the head of the local newspaper, regional power company, and shipbuilding industry. In North Carolina, many of the state programs were codified in law and tied to a tiered disaster declaration process that was used in future events. In Mississippi, once the Governor’s Commission on Recovery, Rebuilding, and Renewal’s report *After Katrina: Building Back Better than Ever* was complete, the Governor’s Office of Recovery and Renewal was established to help implement its recommendations. The Office of Recovery and Renewal remained open until 2014 and aided in the recovery from other disasters, including the BP oil spill (2010) as well as tornadoes and flooding along the Mississippi River in 2011.

The degree to which local needs were met by the two states was both unprecedented in scope and in other ways proved to be uneven. In the case of North Carolina, the state developed an unsurpassed commitment to the creation of recovery programs aimed at addressing gaps in federal assistance, yet it under-emphasized providing the staff and financial resources needed to assist local governments implement the additional programs. In the case of Mississippi, the creation of the state-led temporary housing program, which systematically addressed many of the shortfalls of federal temporary housing delivery, was not adopted by FEMA as standard practice in future disasters. Additional actions in Mississippi included the reprogramming of Congressionally appropriated funds to address economic development concerns, including the provision of infrastructure monies to areas located outside of storm surge-prone areas. Yet the state chose to reduce the allocation of CDBG funding typically provided to address low-income housing needs and did not apply HMGP funding to assist with the significant costs of complying with new higher codes and standards (i.e., elevation of structures) or the buyout of flood-prone homes on the coast.

The timing of assistance provided by both states emphasized a post-disaster commitment of resources, including the creation of state-level boundary-spanning organizations that sought to link federal programs and local needs. The resulting delivery of aid, including the creation and implementation of unique and innovative state programs (e.g., North Carolina’s SARF, or Mississippi’s Renewal

Forum and temporary housing programs), while helpful in many respects, suffered from temporally-related issues. Examples include the time required to create and ultimate implement new state programs after traditional federal programs were already in place, leading to confusion and uncertainty. In another case, the Mississippi Renewal Forum was held 2 months after the storm, which may have been too soon to craft plans that sought to redesign the coast at a time when local governments were still in the process of figuring out how to reconstitute basic services. In North Carolina, state recovery programs, which further strained local government's administrative capacity, have been codified in state law, conceivably improving the timing and coordination of state-federal resource delivery in subsequent disasters.

The level of horizontal and vertical integration in North Carolina and Mississippi was closely linked to the efforts of the Redevelopment Center and the Governor's Commission and Governor's Office of Recovery and Renewal. Inter-organizational coordination was also influenced by both Governors who played crucial roles, particularly as it related to interacting with members of Congress, the President, high ranking federal agency officials, and members of their state legislatures. In both states, the organizations championed by Governor's Hunt and Barbour remained in operation for almost 10 years after Hurricanes Floyd and Katrina. However, both organizations ultimately shut down and the potential lessons derived from them and the Governors who created them have not been fully captured or shared with other states. This has been evident following Hurricane Matthew in North Carolina, which struck in 2016, as state agency officials reported difficulty finding past policies and programs developed after Hurricane Floyd. In both cases, the development of state-level recovery plans could have enhanced horizontal integration across state agencies and served as a vehicle through which lessons could be operationalized and sustained over time to include informing future governors in each respective state.⁷

Understood relative to gubernatorial leadership, both governors proved highly adept at coupling political power, personal relationships, and the compilation of data with a relentless pursuit of their recovery goals. This should not be surprising as Governors Hunt and Barbour were recognized leaders in their respective parties and used this to their full advantage. The relationships, forged with individuals in the White House, Congress, and state legislature, proved critically important and led to the acquisition of federal and state resources that were greater on a per capita basis than those obtained in adjacent states for the same events.

The governor's influence was also reflected in their ability to modify federal rules governing disaster assistance to better address local needs, including the rules associated with the Stafford Act and Congressionally-appropriated funding. In North Carolina, this involved negotiating with HUD to establish post-disaster CDBG rules that mirrored the HMGP and modifying cost-effectiveness criteria, thereby simplifying one of the largest single-state acquisition programs. It also involved creating the concept of "global match" in which state mitigation programs like the State Acquisition and Relocation Fund (SARF) could be used to cover non-federal match requirements for other programs like HMGP. In

Mississippi it meant altering the emphasis of CDBG funds on low-income housing, to include economic development-related projects. The Mississippi Alternative Housing Program was created as a result of Governor Barbour's urging, working in concert with the state's Congressional delegation, leading to significant, albeit short-lived, improvements in the design of temporary housing alternatives.

The unique and in many cases unprecedented state policies and programs developed and implemented by those working for Governor's Hunt and Barbour are worthy of study, including the political, administrative, and technical means by which they were created. In addition, the implications of failing to plan for recovery can also be understood by applying the three dimensions of recovery. Good pre-event recovery planning has the potential to advance an understanding of local needs and the degree to which federal and state programs are designed to address them, improve the timing of assistance across a broad network of providers, and enhance levels of horizontal and vertical integration.

Recommendations, Next Steps, and Future Research

The recommendations suggest a number of needed improvements, emphasizing how governors can inform better disaster recovery policies and outcomes. The recommendations also highlight areas that merit additional research, some of which could be undertaken as part of a larger multi-year study.

Improve Federal Policy to Reflect the Input Provided by Governors in Pre- and Post-Disaster Settings

While governors play key roles in recovery, their influence on local, state, and federal processes and associated outcomes can vary depending on their experience, political influence and power, leadership, and awareness of the rules governing federal recovery programs. This sense of awareness includes the realization that narrowly defined rules are subject to change under the right circumstances. The degree to which the broader array of post-disaster assistance meets a state's needs is also reflected in the pre-event capacity of states, including those capacities assumed by governors, which can be highly variable.

Among the most important roles played by governors is clearly articulating local needs and identifying appropriate implementation mechanisms to address these needs. This may include creating *ad hoc* state organizations and new state programs as well as driving change at the federal level. Achieving these goals involves a blend of political and administrative acumen. Based on the findings of this study, both governors proved highly influential due to a combination of political experience, personal relationships at the federal and state level, and leadership. Past research has shown, however, that this is not always the case for other governors (Boin & 't Hart, 2003; GAO, 2008; Kweit & Kweit, 2006; Mitchell, 2006).

The ability to modify existing programs or create new ones based on the input of governors should not be limited to those that are capable of influencing federal policymaking through political connections and past disaster recovery experience. Instead, federal policies should be flexible enough to address local issues uncovered by state officials, working in tandem with those in the affected area. An important federal counterbalance should account for proposed state actions that run counter to pre-established national goals and local plans advancing issues like equity and collaborative decision making, social vulnerability, and risk reduction. In order to increase their effectiveness, governors should be more attuned to the root causes of disaster and conditions faced in the aftermath of extreme events and plan for this eventuality beforehand, to include placing a greater emphasis on pre-event state-level planning for post-disaster recovery.

Improve State Capacity and Commitment Through Pre-Event Planning for Post-Disaster Recovery

In both states, pre-disaster recovery plans did not exist before Hurricanes Floyd or Katrina. Nor did either governor fully recognize the importance of pre-disaster recovery planning. Rather comments during their interviews focused on the value of pre-disaster preparedness and response efforts. The inherent complexities of recovery are fundamentally different from response-related challenges. The development of pre-disaster state recovery plans provides a procedural mechanism to build a coalition of support that spans multiple stakeholders, including governors. The process allows for diverse groups to collaboratively assess pre-event drivers of disaster impacts as well as identify state and local needs relative to future recovery operations. State recovery plans also provide a vehicle to create a vision for recovery (developed in concert with the governor), assign responsibilities, develop policies to address needs in pre- and post-disaster timeframes, and to coordinate the timing of resource deployment. A strong recovery plan can foster an enhanced level of coordination among state-level organizations (horizontal integration) as well as strengthened levels of vertical connectivity with local and federal actors. It is critically important that governors are actively involved in this process throughout their term(s) in office and to convey their experiences to incoming governors when their term ends.

Good state plans should include strong and enduring implementation mechanisms like pre-established policies and programs, identified sources of funding, and a knowledgeable state staff that can expand and contract based on varied conditions such as the scale and type of disaster. It is also important that state recovery plans are broader in scope than documents that simply identify federal and state funding. In addition to fostering greater administrative capabilities, planners should embrace the political nature of the recovery process, which is a critical, but often overlooked aspect of recovery planning among states. This means ensuring that the plan provides specific guidance for

governors on how the varied aspects of recovery described in this article are influenced by gubernatorial leadership and the closely associated use of strategic and enduring partnerships, including those that expand state influence and power.

Transfer Lessons Through a Gubernatorial Exchange Program

The lack of educational and training materials targeting governors and their cabinet, a limited academic literature informing knowledge generation and practice, and the transfer of scant information to state officials remains problematic (Sandler & Smith, 2013; Smith & Sandler, 2012). Improving a state's capacity to recover from a disaster benefits from documenting, archiving, and sharing lessons within a state that spans administrations as well as lesson-drawing across other states. A review of state materials, including state recovery plans and other policy documents, provided limited evidence that the substantial lessons of Hurricanes Floyd and Katrina were captured, with the exception of the tiered disaster declaration process used by the State of North Carolina and its associated state recovery programs. However, the means by which the North Carolina programs were developed has not been documented and archived by state agency officials.

A searchable compendium of these lessons drawn from case studies should be developed. Key elements should include varied pre- and post-disaster characteristics and conditions that represent a broad temporal and geographic distribution. Cases representing varied points in time allows for the capturing of differing federal, state, and local policies and programs in place at the time of the event and facilitates the tracking of their change over time. The proposed approach should also document the political and administrative regimes active over the duration of the recovery process as well as record and subsequently analyze associated recovery outcomes. Disaster-specific conditions may include the geographic location in which disasters of various types (e.g., earthquake, wildfire, flood, hurricane, drought, winter storm, volcanic eruption, etc.) occurred, as well as their scale and intensity, speed of onset, and duration. Each of these variables, coupled with preexisting and evolving state and local socio-political conditions provide an important means to place lessons within relevant contexts.

Implementing this recommendation will take a concerted and enduring effort among federal and state officials as well as organizations capable of archiving and managing the quality and dissemination of this information. University-based, multi-disciplinary research centers geographically distributed across the United States are ideal candidates to assume this responsibility as they contain a research and administrative capacity needed to perform this activity. Centers should be supported financially to collect, archive, and analyze relevant information and convey the results in a manner that is readily useable by state officials, including governors and their staff. In order to be successful, strong relationships should be established between state agencies and universities, to include the creation of agreements that allow for access to key data,

some of which is protected under privacy act provisions. While the concept of data repositories is not a new one among disaster researchers—a similar network to conduct longitudinal studies and archive results for future use has been proposed (Peacock et al., 2008)—it remains unfunded and clear connectivity to translational organizations are underemphasized.

Professional associations like the National Governors Association (NGA) and the National Emergency Management Association (NEMA) provide venues through which lessons could be transferred assuming these lessons are adequately packaged and conveyed in a format that is useful to practitioners, which is a long-standing challenge (Fothergill, 2000; Smith, 2011, pp. 104–105). The Southern Governors' Association and Florida Governor Lawton Chiles, frustrated by the poor response to Hurricane Andrew in 1993, pushed for the creation of a mutual aid compact that would ultimately become the nationally recognized Emergency Management Assistance Compact (EMAC). The compact is now administered by NEMA (Kapucu et al., 2009).

The ability to use this collaborative venue to convey disaster recovery lessons before and after disasters does face challenges, as EMAC, like many established emergency management systems, tend to focus on response and less on recovery (Smith, 2011, pp. 355–356). Making changes to EMAC—achieved by working with NGA and NEMA—is a worthy pursuit. Delivery mechanisms may include video and interactive web-based case studies, and the incorporation of lessons into disaster recovery planning documents and exercises. Specific, targeted, and succinct information should be tailored for governors and their staff as they assume office and as part of routine peer-to-peer exchange programs. The program should also deliver practical evidence-based information after a disaster occurs, identifying the optimal time to do so based on local conditions, including a state's capacity to absorb and act on the information provided.

Next Steps and Future Research

There remains a lack of attention placed on our understanding of the roles that states play in disaster recovery, including governors. Much work remains to be done to address this gap, and to transfer this knowledge once created to practice. The research described in this paper would benefit from interviewing other governors that have experienced disasters of varying sizes and types that are geographically distributed across the United States, thereby capturing the influence of differing interpretations of federal rules spanning FEMA regions as well as the quality and experience of state staff. Interviews should span time periods before and after federal and state disaster recovery legislation has been enacted, including PKEMRA and Sandy Recovery Improvement Act of 2013 as well as state legislation passed by North Carolina, Mississippi, and other states and territories such as Texas, Florida, Puerto Rico, and the Virgin Islands following Hurricanes Harvey, Irma, and Maria. For instance, to what extent does the guidance provided under the National Disaster Recovery Framework created after Katrina influence the actions of states and governors?

Future research is also needed to compare the efforts described in this article with governors who assume differing roles in recovery, to include a more passive or more active role in recovery and were less (or more) successful in addressing local needs by modifying federal programs or creating new state initiatives. An additional line of inquiry may be to assess states who have not had a major disaster during an existing governor's term to understand how they perceive their pre-event roles in recovery and the degree to which they are aware of and/or influenced the state's level of disaster recovery preparedness. This approach should expand the generalizability of the results, building on the research conducted to date while feeding into a larger, multi-year research agenda focused on the roles of states in disaster recovery. For instance, a comparative analysis of Governor's Barbour (R-MS) and Landrieu (D-LA) post-Katrina and Governor's Christie (R-NJ) and Cuomo (D-NY) post-Sandy, would be instructive.

Additional cases to explore include Hurricanes Harvey, Irma, and Maria. These cases could be particularly informative as Harvey impacted Texas, led by a Republican Governor, whereas Irma impacted the United States Virgin Islands and Florida, led by two Republican Governors—one in a U.S. territory and one in a U.S. state. Maria's impact on Puerto Rico, another U.S. territory, is led by a Governor from the New Progressive Party, a conservative political party. Important differences include the highly varied capacity of each state and territory, the type and scope of damages sustained, and the level of assistance provided. As part of this expanded study, emphasis should be placed on the creation of a translational infrastructure capable of collecting, archiving, and transferring this information across governors and their staffs.

Elements of a larger research agenda should assess interactions across several key variables. Pre-event conditions should include federal, local, and state measures of capacity and commitment; plans, policies, and programs; power and influence; and physical and social vulnerability at the local level. These conditions reflect how a governor's responsibilities and authorities may vary from state to state (and territories), including those that emerge post-disaster as additional legal authorities may be granted through new state legislation. Additional areas of study may include the influence of political and cultural contexts, building on those described in this article to include further unpacking the hybridization of laissez-faire and activist gubernatorial approaches.

The analysis should also span differing disaster events as characterized by their magnitude, duration, geographic distribution, and type of resulting damages. Post-event conditions should address federal, local, and state roles in recovery undertaken as well as policy outcomes at state and local levels (measured in terms of equity, resource maximization, speed, reduced risk, and resilience). Finally, the presence (or absence) of lesson-drawing should be captured, to include event-based, as well as enduring examples that are institutionalized in policy and plans.

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Notes

1. FEMA's course, titled E-209 State Long-Term Recovery Planning and Coordination has been completed.
2. The filmed interviews conducted with governors and state agency officials serve as the basis for a 30-minute video. The video is intended to improve the limited amount of training material available to governors and state agency officials as well as supplement the dearth of college materials addressing disaster recovery. The video is available at <http://coastalresiliencecenter.unc.edu/crc-projects/the-role-of-states-in-disaster-recovery/>.
3. FEMA developed post-Katrina Advisory Base Flood Elevation Maps (ABFEs) to provide individuals and local government officials with a more accurate representation of flood risk that could be used to inform post-disaster reconstruction decisions. The ABFEs served as a precursor to more accurate Flood Insurance Rate Maps (FIRMs) which take much longer to create and formally adopt. The Governor's Office of Recovery and Renewal encouraged local government officials to adopt the higher provisional standard, which meant that substantial improvements or new construction in the floodplain was to be built 3–8 feet higher than the standards in place when Katrina struck. All communities adopted ABFEs, which in some cases, resulted in the construction of houses, businesses, and public facilities on foundations more than 25 feet above the ground. Once the FIRMs were approved, all communities incorporated these standards into their Local Flood Damage Prevention Ordinances as required under the NFIP.
4. Questions have been raised by some non-profit organizations and researchers regarding the degree to which supplemental appropriations obtained and administered by the State of Mississippi adequately addressed low income housing needs (Cutter et al., 2014; Oxfam America, 2006).
5. Following Hurricane Camille, Haley Barbour, then an emerging political operative in the Republican Party, helped to coordinate the visit of President Richard Nixon to the Mississippi coast to discuss the provision of federal aid. Thirty-six years later, Governor Barbour greeted President Bush as the Governor of Mississippi, culminating a career trajectory that in many ways followed the growth of the Republican Party in the state (Nash & Taggart, 2009, p. 303).
6. James Lee Witt served as the Director of the State Office of Emergency Services in Arkansas in Governor Bill Clinton's administration prior to being nominated by the new President to be the head of FEMA. During this time, Witt reported directly to President Clinton, unlike the post 9-11 chain of command in which the FEMA Administrator reports to the Secretary of the Department of Homeland Security, an arrangement widely criticized by scholars and practitioners (Harrald, 2012; Sylves, 2008; Tierney, 2005; Witt, 2004).
7. North Carolina, like many states, has developed a pre-disaster recovery plan following the passage of PKEMRA.

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