

UNDERSTANDING FEDERAL PREEMINENCE IN DISASTER MANAGEMENT: A PUNCTUATED
EQUILIBRIUM APPROACH

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Introduction

The history and literature of American emergency management shows that the country's style of federalism has made properly preventing and rebuilding communities after major disasters a struggle. Louisiana residents telling Vice President Dick Cheney to "Go [expletive] himself," during a live interview shortly after Hurricane Katrina, poignantly represents how many Americans have come to view the federal government's overall emergency response to major natural disasters. This lack of goodwill is intriguing, considering that the federal government has invested hundreds of billions of dollars in this policy domain over the past several decades. When examining U.S. disaster law more closely: a cautionary tale emerges that involves incremental federal legislation and a growingly attentive and critical media, combined with a citizenry that now expects immediate and effective relief during and after natural catastrophes.

Well into the 20th Century, acts of God – great and small – were expected to be handled primarily by state and local governments. However, American natural disaster law currently appears to be held hostage/accountable to the political realities of the legislative and executive branches. Unsurprisingly, scholars and disaster specialists are interested in the development, especially in how the federal government inherited the lead role and how it performs in times of distress. Many of them link, directly or

indirectly, the growth in national involvement over disaster management to the passage of the Robert T. Stafford Relief and Emergency Assistance Act (PL 100-707).

This paper challenges the conclusion that the federal government was not a dominant player in disaster relief and emergency management until the late 1980s. Tracing the evolution and structure of federal disaster legislation and the concomitant appropriations tied to these laws suggests that the involvement actually began a decade and a half earlier, during the late-1960 and early-70s in the wake of some high-profile, highly destructive, natural disasters. The transition from state/local to national control of disaster policies can best be demonstrated with the employment of punctuated equilibrium theory (PET). Baumgartner and Jones (1993) first applied PET to the social sciences as a method to explain change in complex social systems. Looking through the perspective of PET: policies are characterized by significant periods of stability occasionally disrupted (“punctuated”) by large societal and/or governmental shifts. The overall tenets of PET make it ideal for the examination of natural disaster legislation’s rapid shift from local to national equilibrium.

This manuscript identifies a host of variables associated with federal emergency management from the years of 1960 to 2000. These variables include the number of congressional hearings, congressional committees/subcommittees involved, and public laws to measure legislative activity (policyagendas.org). Amount and funding of presidential emergency declarations likewise measure presidential activity (peripresdecusa.org). A media proxy was created, using the New York Times archives, to

account for possible media influence on disaster relief and aid. The following are time-series data in which the dependent variables violate the assumptions of traditional ordinary least squares (OLS) since they suffer from first order auto-correlation. To counter this, I have estimated an Auto-Regressive Integrated Moving Averages (ARIMA) model that implements a Prais-Winsten correction for the auto-correlation.

The qualitative and empirical evidence of this research provides two key findings, both of which have not been explicitly expressed by previous scholars. First, it appears that a succession of natural disasters and reactionary congressional disaster acts culminated in the Disaster Relief Act of 1974 (PL 93-288). It is this law, not the Stafford Act, which constitutes the first serious federal encroachment into the policy domain, laying the foundations for the modern emergency management framework, including the command structure, the standard operating procedures, and most influential – the appropriation options. The second important conclusion is that the legislative and executive branches involved themselves in disaster law at different times. Congressional activity appears to have been driven by the P.L. 93-288, while the first hint of presidential activity in the arena of emergency response remains relatively low scale from post-World War II until after 1988. The identification of 1974 as the pivotal “punctuated equilibrium” period combined with the fact that the legislative and executive branches associated with disaster law at different times has the potential to shed considerable light -- normatively and substantially -- on many of the subsystem’s

current debates. Ultimately, this research offers future disaster law scholars and politicians a more accurate baseline of when and why federal centralization occurred.

This project begins with a select summary of the existing disaster relief and aid literature from scholars in multiple disciplines. The next section outlines the major tenets of PET and why it is uniquely tailored to test when the centralization of disaster management really began to take root. This is followed by a simple but important empirical analysis employing an ARIMA model to show that more than anecdotal evidence supports the view that federal involvement began before the late-1980s. The remainder of the paper discusses the implications and conclusions to be drawn from the research and how it can further aid scholars interested in the inner-workings of this particular governmental subsystem.

American Federalism and Disaster Management: the Path from Disaster-Specific Relief to the Stafford Act and Beyond

Similar to many aspects of American governance, emergency management and relief was born and matured more through trial-and-error than legislative fiat. Municipalities initially assumed the response, relief, and recovery responsibilities attendant on disasters using networks of private and charitable organizations (Steinberg

2000; Sylves and Buzas 2007; Birkland and Waterman 2008). This trend continued largely unabated, in terms of public expectations and policies, until well after World War II. Nevertheless, natural disaster emergency relief was a policy issue the federal government would occasionally be called upon to help with whenever a natural disaster created enough destruction and grabbed enough media attention.

This was evident during the massive flooding of the lower Mississippi River in 1927 which killed thousands and displaced roughly a million more people. The unprecedented destruction demanded the attention of top federal policymakers. President Calvin Coolidge named Secretary of Commerce Herbert Hoover to lead a special cabinet-level committee tasked with coordinating and executing the disaster response with state and local governments and their militias, the Corps of Engineers, the Coast Guard, a naval air contingent, the Weather Bureau, and the Red Cross (Platt 1999; Walters and Kettl 2005). Hoover would become one of the most respected politicians in the country as a result of these efforts and shortly afterwards rode his popularity into the White House. The event did not ultimately change much in the subsystem, in terms of legislation, but it did show federal politicians that natural disaster management could provide them a substantial political payoff.

The Disaster Relief Act of 1950 (PL 81-875) marked the official change in federal politicians' pose from indifference towards disaster management to recognized limited responsibility. Ostensibly, the act was intended to soften the financial and social impacts of natural disasters on citizens and communities by providing supplementary

federal funding and fostering better coordination among state and local governments. The law actually focused more on prioritizing America's national security programs against a possible nuclear attack from the Soviet Union. Although the federal government continued to be relatively noncommittal towards natural disasters politics, "The new legislation would prove to be the first permanent and general disaster law passed by Congress, and its concepts would become the model of all succeeding federal disaster laws, albeit vastly expanded in scope and size" (Platt 1999, 12).

The second and more profound wave of congressional involvement in disaster policy was prompted by a series of record-breaking catastrophes beginning when the "Palm Sunday Tornado Outbreak" and "Billion-Dollar-Betsy" tore through the Midwest and Gulf Coast in 1965. The two events incited their own immediate federal disaster-specific relief acts (PL 89-41 and PL 89-339) and eventually prompted Congress to pass the more comprehensive Disaster Relief Act of 1966 (PL 89-769). This law amended the original 1950 disaster act by further extending emergency provisions including funding eligibility for rural communities, damage to higher education facilities, and repair of public facilities under construction (May 1985).

Glenn and Hill (1966) investigated the possible impacts Betsy had on New Orleans' local elections using surveys and official election results. The scholars interestingly came to the conclusion that the hurricane was not a legitimate political issue at the time. Residents had difficulty assigning blame to politicians on the federal level for the city's lack of hurricane protection. This is a significant find considering it

helps affirm the state/local equilibrium had not been disturbed as late as the mid-1960s. It also provides anecdotal evidence that citizens did not yet fully expect the federal government to come to the rescue during major natural disasters.

Hurricane Beulah (1967), the severe flooding and mudslides in California (1969), Hurricane Camille (1969), and the San Fernando earthquake (1971), each had its influence on the rushed federal incremental encroachment into disaster politics during this period. The Disaster Relief Act of 1969 (PL 91-79), limited to a fifteen-month duration, provided funding for debris removal from private property, distributed food coupons, provided unemployment compensation to disaster victims, and eased restrictions on disaster loan requirements for the Small Business Administration (SBA), the Federal Housing Administration (FHA), and the Veterans Administration (VA) programs. The Disaster Assistance Act of 1970 (PL 91-606) quickly followed with an emphasis, for the first time, on expanding relief assistance for individuals (Platt 1999). This included grants to individuals for temporary housing and/or relocation, funding for legal services, community payments for tax loans, and another round of revisions for SBA loan provisions. Congress pushed through another amendment (PL 92-209) a year later to include funding for reconstruction of medical facilities after the havoc caused by the San Fernando earthquake (May 1985; Platt 1999). This project later demonstrates that as a result of these natural disasters and the acts subsequent to them, disaster response and relief policies, normally a low-salient issue area (May 1985; Platt 1999; Prater and Lindell 2000), were catapulted onto the national political agenda.

Despite Congress's honest attempt to counter the mounting property losses caused by natural disasters; the country and the federal government were again rocked by coffers-busting, national-attention-grabbing, catastrophes in 1972: the Rapid City, South Dakota flood, and Tropical Storm Agnes. Following the emerging pattern, Congress responded by passing PL 92-385, a disaster-specific relief bill, providing victims of Agnes special loans and grants. The damage caused by the Rapid City Flood led to the Flood Disaster Protection Act of 1973 (PL 93-234) aimed at bolstering the floundering 1968 National Flood Insurance Program (NFIP) by expanding flood damage coverage and providing sanctions for communities in flood zones that failed to participate (May 1985; Platt 1999). Things finally came to a head in the beginning days of April 1974 when 148 tornadoes, later coined the "Super Outbreak," rumbled through thirteen states inflicting billions in damages. President Richard Nixon and Congress in an impressive display of cooperation hashed out a new disaster relief law inspired by the principles of New Federalism (Peters and Woolley 1999).

The resulting Disaster Relief Act of 1974 (PL 93-288), an amendment to the Disaster Relief Act of 1970, solidified the legislation before it and further extended federal assistance to individuals and states and their municipalities suffering from significant natural disasters. The new law updated the presidential declaration process including the additional distinction between "major disasters" and "emergencies." Funding was authorized for mental health counseling, establishing recovery planning councils, community loans, estate disaster planning, as well as repairs to parks and

recreation (May 1985). PL 93-288 also created the precursor to the Federal Emergency Management Agency (FEMA) with the creation of the Federal Disaster Assistance Administration (FDAA) housed in the Department of Housing and Urban Development (HUD) (Platt 1999; Kweit and Kweit 2006).

Nixon seemed proud of this legislation and stated on May 22, 1974: “The amount of federal assistance given to disaster victims has been greatly expanded, and [his] administration [had] made every effort to provide this aid more equitably and expeditiously.” Nixon ended his speech with: “This bill [PL 93-288] responds to a vital need of the American people, and it demonstrates that the federal government, in cooperation with state and local authorities, is ready and able to provide compassionate assistance to the victims of natural disasters” (Peters and Woolley 2009-2011). Whether by intention or not, the executive and legislative branches created a federal disaster management framework that would stay in place with few changes for almost a decade and a half.

Clary (1985) conducted a rare examination of natural hazard policies leading up to the mid-1980s. He found the subsystem continued to suffer from low issue-saliency and an ill-defined role for the national government vis-à-vis the lower political units. The scholar constructs one of the better historical accounts of natural disaster management compared to his future colleagues and notes that the federal share of disaster costs had risen to more than 70 percent in the 1970s alone (from 1 percent in 1953). The study ultimately succeeds in explaining why future disaster legislation was

necessary, but it does not make the connection that events leading up to the implementation of the 1974 disaster law began the centralization of American emergency management.

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (PL 100-707) of 1988, credited frequently with beginning centralization, actually represented the third wave of congressional involvement in disaster law. Besides reauthorizing and expanding many of the same components as its 1974 predecessor, the Stafford Act institutionalized FEMA into the general emergency management framework. President Jimmy Carter founded the agency just days after the Three Mile Island Pennsylvania nuclear leak scare in the spring of 1979 and adopted its agenda from the dissolved FDAA. But FEMA now became the official federal “clearing-house” in charge of coordinating the numerous federal agencies charged with disaster relief responsibilities as well as their state/local partners, most notably during the presidential declaration process. A 75/25 federal-state monetary cost-sharing plan was introduced in hopes of reining-in the ballooning costs of disaster relief and aid. The Stafford Act marked the first time Congress explicitly required hazard mitigation planning as a prerequisite for federal assistance as well, although its success continued to be mixed at best (Schneider 2002). Likely because of the scope of the 1988 Act, many scholars writing after this period appear to confuse the rules and stipulations originating from PL 93-288 with PL 100-707 by neglecting the 1974 act altogether or treating both as a single act or by crediting the Stafford Act for outcomes set into motion before its inception.

The remainder of the 1980s and early 1990s bore witness to a rash of epic natural disasters splashed on TV for all Americans to see -- most notably, Hurricane Hugo (1989), the Loma Prieta Earthquake (1989), Hurricane Bob (1991), Hurricane Andrew (1992), Hurricane Iniki (1992), The Great Flood of 1993, and the Northridge Earthquake (1994) -- reminiscent of the mid-1960s and early-1970s. Dismayed citizens and politicians publically called into question the very existence of FEMA, the integrity of the presidential disaster declaration process, and the effectiveness of U.S. hazard mitigation practices. This eventually led to a sort of "Golden Age" for disaster politics under the energetic administration of President Bill Clinton and his capable FEMA director, James Lee Witt.

Unsurprisingly, the combination of 24-hour news channels, destructive natural disasters, public outcries, and governmental intervention, piqued the interest of academics as well. Schneider (1990) examined four disaster rescue and relief scenarios, three during Hurricane Hugo and one during the Loma Prieta earthquake. The author chose these particular performances because they each represent a different pattern of intergovernmental relations during emergencies ("top-down," "confusion," "shared-governance", and "bottom-up"). She makes a fair attempt to explain the evolution of disaster law, distinguishing the 1974 disaster act from the Stafford Act in her recounting of the gubernatorial responsibilities during the presidential disaster declaration process. Schneider wrote another piece two years later in which she develops a convincing argument "that focuses on the "gap" between what governments are prepared to do in

emergency management situations (bureaucratic norms) and what emerges as the expectations of those victimized by the disaster (emergent norms)” (1992; 135). She posits that success and/or failure in disaster recovery is almost entirely a matter of public perception rather than objective reality and the media bears responsibility for the “gap.” Schneider’s analyses is not concerned with *when* centralization first appeared, instead focusing on demonstrating the federal government was the biggest actor of the U.S. disaster response system at the time (early 90s).

Although Pielke, Jr. and Landsea (1998) are not focused on centralization per se, their impressive analysis of hurricane impacts on U.S. soil from 1925 to 1995 is germane to this study for a couple of reasons. First, they establish that hurricanes have been the country’s most destructive natural disaster in written record. The scholars also discover the increased hurricane activity during the 1990s (their primary focus) was not unprecedented when compared to the 1940s-1960s. These findings support the theory that a succession of seriously destructive hurricanes (Betsy, Beulah, and Camille) in the mid-to-late 1960s caught the attention of Capitol Hill. Ultimately, these hurricanes played a significant role in persuading Congress to move from specific-disaster relief acts to building a more comprehensive disaster management framework.

Writing post-Katrina, Eisinger (2006) explores the intergovernmental homeland security partnership finding more imperfections than progress. The majority of the work is outside the scope of pre-9/11 but the few remarks made of this period justify its review here. Eisinger claims somewhat correctly that a pattern of devolution (block

grants) and confusion over national/sub-national roles began with the Nixon administration's repudiation of the Great Society model of intense federal involvement in urban affairs, both programmatically and fiscally. However, the author fails to account for Nixon's role in the formulation and implementation of some of America's most important and generous disaster laws. It is a mere example among many recent scholars who approach the subsystem as if centralization began in the mid- to late-1980s. The overlooking or omitting of important developments in the decades prior begs the question: Are these findings accurate?

This question applies to Comfort's (2005) examination of the U.S. policies and practices that address the evolving conditions of risk, security, and disaster management in a post-9/11 world. The focal point of his work is that networked strategies appear to offer an important alternative to more vulnerable hierarchical structures. Comfort focuses primarily on how the country can best combat man-made disasters in the 21st Century but he makes a similar error in his historical reconstruction as Eisinger (2006). He claims that during the mid-1980s, the "more careful documentation of losses from disaster events and more critical analyses of government practices in disaster operations have led to a different formulation of the problem of extreme events" (336). The "different formulation" is the reassessment of catastrophes from probabilistic "acts of God" to one where humans and their changing social, economic, physical, and political conditions have unwittingly increased their vulnerability during these predictable events. Although this eureka moment for

American disaster management did occur, it most likely did so at least a decade earlier, evident by the large increase in congressional attention.

Caruson and MacManus (2006) take a different approach from other scholars writing post-9/11 and –Hurricane Katrina by presenting the way intergovernmental relations changed from a local perspective. They use analysis based on their mail survey of local officials identified by the Florida Association of Counties and the Florida League of Cities to suggest homeland security is a policy area in which mandated cooperation and coordination during emergencies strengthen the intergovernmental system. The authors’ originality aside, their work is suspect, considering they do not mention any pre-9/11 federal mandates/legislation and their influences on disaster management for one to even properly gauge how they “changed” after the Al Qaeda attacks. Another problem crops up: Florida is among the top five states forced to handle natural disasters annually stemming for at least the last half century limiting the adaptability of the approach taken by Caruson and Macmanus (Plat 1999). This article provides an example of the potential problems that can arise if current disaster law scholars treat the subsystem as if it started after the attacks of 9/11 and ignoring the decades of politics associated with the subsystem before the 21st Century.

The errors are found in other federalism research including not properly outlining the evolution of federal disaster legislation altogether (Dinan and Krane 2006). Or scholars drill down too narrowly on one period, usually centered on a “focusing event” (Scavo et al. 2007). Another flaw is the construction of a limited view of U.S.

disaster law history by omitting important laws such as PL 93-288 (Derthick 2007; Landy 2008). Lastly, some professors have provided excellent analyses of the different disaster legislation over the decades but ultimately fail to connect them to the bigger picture of when centralization occurred (May 1985; Platt 1999; Birkland and Waterman 2008).

The 1970s: the Forgotten Decade

Research on U.S. disaster law has become considerably more sophisticated over the last two decades with attention paid to a broad array of interconnecting themes including but not limited to: the inadequacies of FEMA, the presidential emergency declaration process, and the congressional tendency to favor less-effective structural hazard mitigation methods over nonstructural options. Although these themes do not deal primarily with centralization, it is necessary to address what appears to be a trend of inattention in the literature to the changing dynamics of the subsystem that occurred during the 1970s. Many scholars simply have not provided the full story of federal involvement in disaster management and have also bypassed a potential treasure-trove of variance to add in their respective analyses.

FEMA: Set Up for Failure?

The decades before the 1970s witnessed a dizzying array of existing federal agencies, each with their own emergency-related responsibilities and jurisdictions. However, as previously mentioned, the marked increase in costly natural disasters during the 1960s and 70s forced Congress to rethink its approach. This led to the institutionalization of disaster law at the federal level with the Disaster Relief Act of 1974 (P.L. 93-288) consolidating all the previous disaster relief legislation before it. FEMA would not be made the official federal emergency management “clearinghouse” until April 1, 1979, with President Carter’s Executive Order 12127.

The 1979 date also marks the beginning point of many articles that focus on the agency’s performance as if it were created out of whole cloth. Unfortunately, few highlight that FEMA initially adopted its agenda and protocols from the FDAA, all of which originated with P.L. 93-288. This set up would continue until the 1988 Stafford Act (P.L. 100-707) reauthorized the federal emergency management framework with FEMA’s role updated into the text. As with the federalism/emergency management literature: a common error crops up with FEMA scholars who do not connect the agency to its complete legislative evolution by either grouping the two very different disaster acts together (P.L. 93-288 and 100-707) or ignoring them altogether. This leads to confusion over the conditions out of which FEMA originally came about, the environment it was forced to contend with, and the directives the agency operated under before the Stafford Act.

One of the most respected scholars in the field, Peter May, examined the progress of FEMA early on in 1985. He analyzed four programs -- flood plain management, dam safety, earthquake preparedness, and crisis relocation planning -- from 1980 -1983. May wanted to gauge if the agency was successful in implementing sustainable policies as well as establishing workable relationships with lower governmental units. The scholar identified federal program decisions that had significant ramifications on the organizational and intergovernmental politics within states. FEMA officials also had difficulty in building and maintaining relationships with state and local staff. Clearly, these circumstances severely limited FEMA's ability to get states and their municipalities on board and willing to cooperate with its policy directives. May does not dig into the pre-FEMA disaster legislation but he leaves the reader with an important concept: "If the slate were wiped cleaned and federal emergency management programs were to be introduced without a legacy of past federal programs, the introduction of new approaches to emergency management would be much simpler than it is at present" (44). It is precisely this policy-baggage, collected over the decades that undermined FEMA's purpose even before it got out of the gate.

The seeds of FEMA's failure, identified by May, had come to fruition by the early 1990s with the agency's very existence being called into question after a bumbling performance during Hurricane Andrew. The issue being thrust into the national political spotlight pushed Congress into commissioning both the National Academy of Public

Administration (NAPA) and the U.S. General Accounting Office (GAO) to conduct hard-hitting investigations of the beleaguered agency. Sylves (1994) does an impressive job of comparing and teasing out the more important aspects of both the highly critical reports. The studies revealed many problems that occurred during Andrew, “including vague mission statements, an unclear legislative charter, weak or nonexistent management systems, poor application of communications and information technologies, and deficient headquarters/field relationships” (Sylves 1994, 303). The NAPA and GAO reports along with Sylves’ review are well-written, insightful, and leave no rock unturned in assessing the many problems of FEMA. For this reason it seems odd there is almost no focus on *when* FEMA’s problems first cropped up. This is tantamount to diagnosing the agency on the basis of symptoms while ignoring the root causes of its illness.

Wamsley and Schroeder (1996) also examined the disaster agency in the post-Hurricane Andrew era of escalating disaster politics. The authors claim FEMA had become a quagmire by the early-1990s: a policy subsystem “thrown into a far from equilibrium state” (243). Although this conclusion holds merit, there is not enough evidence in the piece alone to warrant such a statement. Wamsley and Schroeder make little mention of federal disaster management before FEMA’s founding and nothing about the important influences of the 1974 Disaster Relief Act and the Stafford Act. Omitting the historical policy-baggage attached to FEMA at its birth, one is not able to

establish if the subsystem ever enjoyed an equilibrium state, let alone was thrown far from it.

The ultimate focusing event, Hurricane Katrina, served only to exacerbate the pattern of incomplete academic analyses of FEMA. Freedberg (2005), Rood (2005), Roberts (2006), Sobel and Leeson (2006), and Donahue and Stier (2008), write about the trials and tribulations of the agency in the 21st Century with varying degrees of success. Most of the scholars agree the events of 9/11 and the subsequent federal reforms served to undermine the moderate successes the agency was enjoying in the mid- to late-1990s. Similar to the FEMA literature before it: this research focuses almost exclusively on FEMA's operation performances during major disasters (the 2005 hurricane season) and little on its creation and evolution. The fact that these scholars do not even mention the effects of the 1974 Disaster Relief Act or rarely the Stafford Act on FEMA ensures their work is at least partially incomplete.

FEMA was not created out of thin air. Most scholars concerned with the agency are actually judging, usually negatively, its overall performances under times of duress with little regard to how it evolved. The failure of these individuals to discuss the decade before FEMA's inception in the historical analyses ultimately weakens the literature as a whole because the reader cannot properly evaluate how the agency has been constrained in what it can and cannot do from Day One. Including the fundamental changes that occurred during the 1970s makes it easier to explain why FEMA has earned, arguably unfairly, its unfavorable reputation.

The Presidential Emergency Declaration Process

The examination of the complex politics associated with the presidential emergency declaration process is one of the more prominent subtopics of disaster law. Emergency declarations set into motion the allocation of federal disaster relief and aid to states, local governments, businesses, and individuals affected by either “major disasters” or “emergencies” (Downton and Pielke Jr. 2001). Despite the popularity of the topic, the emergency declarations literature also suffers from fuzzy historical accounts, especially the important developments coming out of the early 1970s.

The executive branch was first given the broad authority to declare emergencies under the Disaster Relief Act of 1950 (PL 81-875). President Dwight Eisenhower issued the first major disaster declaration in 1953 for a severe tornado in Georgia (Sylves 1996; Rubin and Tanali 2004; Sylves and Buzas 2007). However, this process for whatever reason, was utilized sparingly until the succession of natural disasters in the late-1960s and early-1970s. The Disaster Relief Act of 1974 (PL 93-288) and its preceding legislation significantly expanded the president’s authority to independently issue emergency declarations for life protection and safety purposes in addition to approving governors’ requests for disaster relief. The 1974 law created the distinction between “emergencies” and “major disasters,” although this admittedly remained unclear. The Stafford Act (PL 100-707) further updated the process, not by profoundly changing the

legislative and administrative guidelines governing the president's decisions, but rather by incorporating FEMA (founded in 1979) into the already existing framework (Sylvles and Buzas 2007).

Ostensibly, the deliberate and continued lack of objective criteria and vague wording of the emergency declaration process allow presidents the freedom to handle catastrophes in quick and efficient fashion (Downton and Pielke, Jr. 2001). The circumstances, however, have fueled scholars' suspicions that the system is susceptible to abuse from non-needs-based political considerations by both the executive and legislative branches. Factors identified as contributing to the politicization of the declaration process include electoral reward, reelection years, congressional committee appointments, geographic location, and party loyalty (May 1985; Sylvles 1996; Platt 1999; Schmidtlein et al. 2008; Salkowe and Chakraborty 2009).

The majority of damages caused by natural disasters is flood-related (hurricanes fall into this category) and makes up the largest portion of presidential disaster declarations (Platt 1999). Downton and Pielke, Jr. (2001) examine presidents' discretion in disaster declarations involving floods from 1965-1997. They find each administration has differed greatly in its approach to disaster declarations and federal assistance depending on the election cycle and the dominant legislative/administrative policies of the times ("The Great Society," "New Federalism"). The article is well-written and original in terms of its focus on floods but ultimately weak on context. Downton and Pielke, Jr. quickly explain away the 1950s to FEMA's creation with citations from May

(1985). There is no mention of the 1974 disaster law or any legislation that leads up to its passage, while the Stafford Act is mentioned a number of times. Empirics aside, this piece's qualitative description of the presidential emergency declaration process appears incomplete and a bit misleading.

This problem repeats itself in Garrett and Sobel's (2003) investigation of the presidential and congressional influences over the rate of disaster declarations and the allocations of disaster funds, via FEMA, across the U.S. The authors' time period is short, 1991-1999, which essentially makes this a case study on the Clinton administration -- an outlier among the 20th Century presidencies considering his unprecedented use of the process. They claim that states politically important ("battleground" states) to the president have higher rates of disaster declarations and that in election years there is an additional bump in annual totals. Garret and Sobel find "strong evidence that once a disaster is declared, disaster expenditures are higher in those states having congressional representation on FEMA oversight subcommittees" (508). However, the scholars go so far as to cite the Stafford Act with the 1974 disaster relief public law number (They confused the two) and give the former credit for several major components of the declaration process that were already in place before 1988. Additionally, there is no discussion of the congressional subcommittees that dealt with disaster management before the creation of FEMA. The article is an example of quality quantitative analysis being partnered with shoddy qualitative explanations.

Some notable scholars in the subtopic begin their study of the Stafford Act with no regard to the importance of the decades preceding the law, including the influential 1974 disaster act. Healy and Malhotra (2008) use data on natural disasters, federal spending, and election returns to show evidence that voters reward the political party of the incumbent president for delivering disaster relief spending, yet interestingly not for investing in disaster preparedness spending (hazard mitigation). Salkowe and Chakraborty (2009) put together a comparative analysis of emergency and major disaster declaration requests to find potential political partisanship, biased vote-seeking, and states' ability to cope with major disasters. Besides finding a bump in reelection years, their study shows that states with lower total taxable resources have more success in acquiring major disaster declarations. Both of these articles are interesting, informative, and have impressive quantitative analyses but the period of study -- Healy and Malhotra: 1988-2004 and Salkowe and Chakraborty: 1989-2005 -- ultimately limits their work. Especially considering that the Clinton administration used the emergency declaration process significantly more than his predecessors. It would be a boon for the literature if these scholars applied the same methods to a larger time frame.

Numerous scholars, however, with extended time ranges in their studies still under-appreciate the influences of the 1970s legislation on the presidential emergency declaration process. Schmidlein, et al. (2008) investigates potential geographic inequities between major hazards and the issuance of emergency declarations at the county level from 1965 to 2004. The study postulates that the distribution of disaster

declarations is not fully explained by the spatial pattern of major hazard events and hints that political factors account for the gap. The scholars make no mention of the 1960s and 70s disaster legislation existence, let alone importance; crediting the Stafford Act “and its subsequent amendments...provide the policy framework for federal disaster assistance” (2). Considering that the analysis covers four decades, it is unfortunate the authors do not attempt to identify the punctuated equilibrium from state/local to national policy dominance.

Gaspar and Reeves (2011) utilize more than 3,100 county-level vote returns for all states from 1970 to 2006. They suggest voters reward or punish politicians based on both the amount of damage caused by natural disasters and the actions elected officials took in handling the situation. Lost in this large examination is a decent account of how the presidential declaration process came into being. The 1974 disaster law is given a mere foot note including a quote from Sylves and Buzas (2007) (342). Ultimately, Gaspar and Reeves give a fairly vague and unconvincing review of the very subject their research is examining.

Reeves (2011) wrote another piece using emergency declaration data from 1981 to 2004. He postulates that electorally competitive states are more likely to receive disaster declarations from the executive branch. Reeves claims his research has clarified two crucial questions: why and when the disaster declaration process became politicized (2). The problem is that his answers to both questions do not convey the whole story. The Stafford Act, according to Reeves, expanded the capacity of the

president to act allowing electoral considerations to influence the emergency declaration process, a pattern he does not detect prior to 1988. Although this is technically correct, Reeves' analysis is limited to 1981 and misses the considerable increase in declarations recorded in the early-1970s. As to the "when" question, the scholar states "the act [Stafford Act] coincides with the end of the Reagan presidency and so the politicization could also reflect governing differences between Reagan and his successors" (3). If the scholar had expanded the scale of his study, he would have identified Presidents Nixon (33.8), Carter (34), and Ford (28) passed more declarations on average per year than the Reagan administration (22.9). Evidently, this article specifically and the literature in general would benefit from analyses with an extended time-frame.

The easily accessible data, the potential to find political graft, and the consequences of a failed declaration (Hurricane Katrina) have helped to make presidential emergency declaration research a promising subfield. The problem, similar to the FEMA research, is that scholars appear to circumvent most of the early legislation and its influence to the emergency management framework prior to the Stafford Act. Thus, the literature as a whole does not flush out the evolution of the process including when it first came to be heavily relied upon during the early 1970s.

Structural Hazard Mitigation vs. Nonstructural Hazard Mitigation

Hazard mitigation became a popular topic in political science and similar disciplines during the 1990s. Generally speaking, it is any advance actions taken to eliminate or reduce long-term risk to human life and property and negative impacts on natural and cultural resources that can be caused by natural and technological hazards (Platt 1999; Godschalk et al. 1999). Hazard mitigation is perhaps the most critical of the four stages of the American emergency framework, which include preparedness, response and rescue, recovery, and mitigation. This is because it has the potential to ease the burden of the entire system in general (Godschalk et al. 1999; Prater and Lindell 2000; Schneider 2002; Kemp 2005). Unfortunately, as with literature on FEMA and the presidential emergency declaration process, there appears to be discrepancies over the exact evolution of U.S. hazard mitigation and how it relates to the larger picture of federal centralization.

Hazard mitigation can be approached in two ways. The most common and easiest to implement is structural, also known as stand-alone, mitigation. This type is ultimately meant to increase communities' resiliency and damage resistance. These measures consists of building infrastructures (levees, dams, canals) as well as imposing safer building codes, engineering designs, and construction practices. In reality, however, these mitigation policies have proved to be a "snake-in-the grass," since they give a false sense of security that engenders increased occupancy and development of exposed areas also known as "moral hazard" (Platt 1999; Burby et al. 1999). Nonstructural, or comprehensive, mitigation, on the other hand, directs new

development away from hazard-prone regions, using land-use plans and regulations, relocation of communities, and maintaining the protective features of the natural environment (sand dunes, mangroves, forests) (Burby et al. 1999; Schneider 2002).

The emergency response and recovery of the 1927 Mississippi flood (Lower Mississippi Flood Control Act of 1928) established an early pattern of foregoing land use regulations and incentives to entice development in safer areas in favor of promoting more structural infrastructures such as dams, levees, and diversion channels in what would become the vain attempt to control future flood water with technology. This situation eventually encouraged renewed growth in the hazard-prone region giving a false sense of security and the tacit assurance that the federal government would come to the rescue when necessary. In this manner water-related natural disasters incrementally became national problems and the responsibility of Congress, which failed early on to exploit its most effective weapon against natural catastrophes – nonstructural mitigation measures – evident in the Flood Control Act of 1936 (Galloway 1995; Platt 1999; Davis and Dunning 2005). This key error has had long-lasting effects in stunting non-structural mitigation reform considering that as development continues unabated, the more difficult and politically costly it becomes to champion stringent hazard mitigation (Prater and Lindell 2000).

The late-1960s and early-1970s constituted the first genuine “window of opportunity” for non-structural mitigation reform on the federal level. “Billion-Dollar-Betsy” motivated the legislative and executive branches to implement non-structural

mitigation methods after the hurricane raked through the Gulf Coast and New Orleans in 1965. Congress passed the Southeastern Hurricane Relief Act that year and set into motion legislation that eventually became the National Flood Insurance Act of 1968 (P.L. 90-448). The National Flood Insurance Program (NFIP) operated by awarding heavily subsidized insurance to communities that instituted regulations to protect the floodplains of America from unwise land use (Burby and French 1981; Steinberg 2000). The program would be underutilized for years until further catastrophes pressed Congress into passing the Flood Assistance Protection Act of 1973. The amendment made the purchase of insurance mandatory for protecting private property within established flood zones to be eligible for compensation during emergencies (Platt 1999). This flood protection legislation, despite its good intentions, would eventually become a sort of entitlement for exposed states, their municipalities, and citizens; using federal funds to freely build and rebuild their communities in the same disaster-prone locations.

Hazard mitigation reached a milestone with the Disaster Relief Act of 1974 (PL 93-288). Title II of the law authorized the president to provide technical assistance (up to \$25,000 per state) to the states in developing comprehensive plans, practicable programs, and capabilities for disaster preparedness and prevention. Title V also granted governors of states affected by natural disasters the right to request federal assistance in establishing post-disaster “Recovery Planning Councils.” The purpose of these councils was to “provide cooperative planning for development, restoration of employment base, and continued coordination of Federal-aid programs for long-range

restoration and rehabilitation of normal commercial, industrial, and other economic activities” (www.thomas.loc.gov). Despite the attempts to incorporate non-structural hazard mitigation into U.S. disaster law during this period, there continued to be a heavy reliance on only structural mitigation.

The rules and regulations for hazard mitigation established by the mid-1970s would remain intact until the Stafford Act (P.L. 100-707). The 1988 act marked the first time Congress explicitly required hazard mitigation planning as a prerequisite for federal assistance. This is perhaps why some scholars credit this legislation for first incorporating mitigation into the emergency management framework despite it not being completely accurate. The new federal mitigation directives established national priorities, procedures, and programs including a requirement that states make their own disaster preparations (Section 409) to qualify for federal mitigation grants (Section 404) (Godschalk et al. 1999). However, these prerequisites engendered the unintentional institutionalization of disaster-driven, not threat-driven, state mitigation reforms.

An overwhelming majority of state legislatures ended up developing only short-sighted, tentative mitigation plans, usually based on their most recent disasters in order to meet the bare requirements necessary to receive FEMA grants. Congress had set the bar relatively low to better ensure state/local compliance. By exploiting the circumstances, state governments have had little incentive to implement, monitor, evaluate, and update proactive, integrative hazard mitigation reform concerning future

disasters. This is most likely on account that the costs of responding and rebuilding when catastrophes hit had already shifted heavily to the federal government (Godschalk et al. 1999, 363-365).

A series of natural catastrophes (Hurricane Hugo, the Loma Prieta Earthquake, Hurricane Andrew, and the 1993 Midwest Flood), a new presidency (Clinton), and the commissioning of unbiased, highly critical policy and program reviews (NAPA, GAO, the National Performance Review, and the Galloway Report) opened up a second and more profound “window of opportunity” for positive hazard mitigation reform during the 1990s. FEMA, now fully supported by the legislative and executive branch, equipped with new competent leadership, a vibrant workforce, and a streamlined focus, became the vanguard for this renewed and emphatic emphasis on the benefits of integrative hazard mitigation. Creation of the Mitigation Directorate in 1995 made mitigation the “cornerstone” of emergency management with the goals of increasing public awareness and reducing the loss of life and injuries (Platt 1999). Two years later, FEMA announced Project Impact, intended to promote the adoption of mitigation techniques within local communities. Unfortunately, it tended to promote only structural mitigation, rarely involved the expertise of local personnel, and continued to neglect land use planning (Burby et al. 1999). Although these achievements were only successful to varying degrees considering the little time they were given to mature, this period marked the first time the federal government as a whole assessed a haphazard approach towards disaster management and proactively addressed specific problems. However, the

promising new focus on hazard mitigation came to an abrupt end shortly after Sept. 11, 2001.

A number of scholars interested in the politics of hazard mitigation do an impressive job compiling the laundry list of reasons why passing integrative measures is a thankless task while forgoing the sticky historical accounts altogether. Mileti (1999) focuses on adoption and implementation of hazard mitigation, breaking down the process into categories (e.g. governmental, institutional, social, cultural, economic, and legal influences). However, the author makes little attempt to identify when and how these trends started to emerge. Prater and Lindell (2000) put together a similar piece a year later with more emphasis on why hazard professionals need to understand the intensely political nature of hazard mitigation in order to be effective in reducing community hazard vulnerability. Their analysis of mitigation during the turn of the century is top-notch. However, they do not explain when it became so politicized/difficult to achieve. Similar to the FEMA literature, these authors are diagnosing the symptoms and not the root causes of this development.

Another set of scholars attempt to outline the historical underpinnings of hazard mitigation policies but there appears to be some confusion in their accounts. Godschalk et al. (1999) provide perhaps one of the best descriptions for why state and local governments have become barriers to effective mitigation reform. At the same time, the authors claim mitigation policy was set forth with the Stafford Act, sidestepping the important legislation of the mid-1960s and early-1970s. Schneider (2002) proposes

some possible avenues on how emergency management can be better linked to issues such as environmental stewardship and community planning. Although the research is interesting, he cites the Stafford Act in 1988 as the moment when hazard mitigation was incorporated into law, mentioning nothing of the legislation before it. Davis and Dunning (2005) focus on the years after the 1993 Midwest Flood to assess if any changes proposed by the Galloway Report were put into effect, finding only minimum improvements. They too do not discuss the importance of the disaster relief acts of the late-1960s and early-1970s, which had essentially set the trend for U.S. floodplain protection. Cigler (2009) reviews the major hazard mitigation measures considered for the Gulf Coast during the hurricane seasons of 2005 to 2008, most notably Hurricane Katrina and Ike. Following the tendency of others writing in the 21st Century, she does not provide a detailed analysis of the history of hazard mitigation for one to trace how it eventually became a responsibility of the federal government.

Comparable to the previous presidential emergency declaration research, scholars of hazard mitigation appear to be focused primarily on the many ways its policies are politicized and not on how or when they became this way. Considering the lack of detail dedicated to the legislation of 1965 to 1974, the time period when hazard mitigation became institutionalized, the literature must be considered incomplete. Ultimately, it is an example of scholars missing fundamental changes that occurred to U.S. emergency management and relief during the 1970s.

Punctuated Equilibrium Theory (PET) and U.S. Disaster Management

This manuscript has thus far reviewed some of the more prominent arguments from the disaster management literature, which suggest that the federal dominance of the issue area occurred in the late 1980s after the passage of the Stafford Act (P.L. 100-707). However, this project questions the assumption, making the argument that the federal government, most notably Congress, took a lead role in disaster policy roughly 15 years earlier. This section will employ punctuated equilibrium theory (PET) to guide an empirical analysis designed to determine which of these assertions is more accurate.

PET, originally developed by paleontologists, was first applied to policy change by political scientists Frank Baumgartner and Bryan Jones in their seminal work *Agendas and Instability in American Politics*. They propose a punctuated equilibrium model to explain how policy issues emerged and receded from the American public agenda. According to PET, during the time that issues emerge new institutional structures are created that define participation that can last for a long time, providing a sense of equilibrium. Policy area equilibriums are characterized as having essential features that do not significantly change over time. Or, if outside forces throw a system off balance, it is only a matter of time before it returns to that original state. Building from Riker's research (1982), Baumgartner and Jones are suspicious if political systems ever reach equilibrium in the scientific sense because new developments/ideas render policy

monopolies -- structural arrangements supported by powerful ideas -- unstable in the long run.

Baumgartner and Jones state that this supposition does not imply political systems are in continual chaos but rather that they are held together over time by two prime “devices”: the existing structure of political institutions and the definition of the issues those institutions process. “Issue definition is the driving force in both stability and instability, primarily because issue definition has the potential for mobilizing the previously disinterested” (16). During this heightened attention of the apathetic, once non-salient issues, such as emergency relief and aid, have a way of grabbing media headlines and consequently awareness from public officers. Policy adoption, or the changes from either the destruction or the alternation of an existing arrangement, is usually slow at first, then very fast, then slow again as the saturation point is reached, similar to an S-curve (17).

Using a comparative issue dynamics approach, the crux of Baumgartner and Jones’ theory is that agenda setting can be determined by the strategic struggle over the definition of issues. The battle to define an issue begins and ends with how a policy is ultimately perceived and the amount of access granted to certain groups during the process. Policy images are a mixture of empirical information and emotive appeals that allow individuals to discuss and understand the key aspects of a particular issue (26, 31). Policy venues, on the other hand, are the institutional locations where authoritative decisions are made concerning a given issue (32). The scholars state: “Any model of the

policy process which seeks to explain both incrementalism on the one hand and rapid change on the other must appreciate the interaction between issue assignment and political rhetoric ” (37). Essentially, this means that when the political rhetoric begins to change, so too the venues, which in turn leads to increased attention to a new policy image. In this manner, U.S. policymaking in a changing institutional and political environment is punctuated by bursts of activity, which modifies issue understandings and leads to non-incremental policy change (54).

Utilizing the tenets of PET, it becomes fairly easy to develop expectations about the factors that contribute to the centralization of disaster management policy authority by the federal government in the mid-1970s. Following the theoretical pattern identified by Baumgartner and Jones, the scope and degree of destruction engendered by the succession of natural disasters in the late-1960s and early-1970s changed the allocation of attention coming from national leaders, the media, and the public. This is a quintessential example of what the scholars term a “Schattschneider mobilization,” in which congressional members increase their activities (e.g. the number of hearings held and the committees/subcommittees involved) and change the agenda setting under negative publicity (99). The circumstances slowly but steadily led to the reformation of institutional venues and the understanding of the previous disaster policy monopoly.

According to PET, if the Disaster Relief Act 1974 represented a punctuation from state/local control to the federal level, one should detect significant increases in at least one of the following: congressional and executive activity concerning disaster relief and

aid as well as an increase in media attention. Before 1950, the federal government did not concern itself with natural disasters unless it was something of epic proportions. Even post-1950 act, the federal government was primarily concerned with nuclear attack, not natural disaster relief and aid. Only after Hurricane Betsy hit the Gulf Coast in 1965 did Congress seriously take note of natural disasters' potential destruction, beginning an incremental series of mostly disaster-specific legislation (P.L. 89-339, 90-448, 91-79, 91-606, 92-367, 93-234) that eventually crystallized into P.L. 93-288 and the establishment of a bona fide federal disaster management framework. The general structure of the 1974 disaster act would not be significantly amended until fourteen and half years later with the Stafford Act. This trajectory follows the exact S-shaped trend of policy adoption described by Baumgartner and Jones.

Strongly related to the institutionalization of disaster law is the amount of congressional attention paid to the issue area. Legislative attention can be determined by the amount of hearings held and the number of committees and subcommittees that concern themselves with disaster management before and after 1974. This project will demonstrate that all three variables witnessed a significant uptick after the passage of P.L. 93-288.

Another reason why the 1974 act fits nicely into Baumgartner and Jones' findings is apparent in the significant increase of federal appropriations dedicated to handling major natural disasters. Financially, congressional legislation before the inception of P.L. 93-288, including the Disaster Relief Act of 1950 (P.L. 81-875), was strictly

supplemental when compared to the state and local share of the burden, on paper and in reality. However, federal expenditures had already ballooned by the start of the 1980s; despite the continued lip service of Congress it was only responsible for supplemental assistance (Clary 1985). For the first time, sponsors of the 1988 Stafford Act insisted on the inclusion of a 75-to-25-percent cost sharing clause between the federal and state/local governments in a doomed attempt to limit the monetary hemorrhaging caused from combating natural disasters. These factors lend credence to the idea that the federal government had already become the dominant actor in the policy subsystem and it appears to have happened sometime in the mid-1970s.

Lastly, the changing dynamics of media attention (i.e. television) during the 1970s is a crucial aspect to the centralization of disaster management. Baumgartner and Jones explicitly state “The media plays an integral role in the policy process by directing attention alternatively toward different aspects of the same issues over time and by shifting attention from one issue to another” (103). Essentially, media has the power to bring increased awareness of things that had been true all along but had been easily ignored in the past. Television ownership and use spread rapidly after World War II and according to a Roper poll, was relied on by the majority of Americans for their news over newspapers and radio by the early 1970s (www.emmytvlegends.org). This meant the destruction and visceral emotions emanating from natural catastrophes were no longer confined to a state or a region, but rather reached all Americans watching in their living rooms. Using this logic, one can explain how the series of natural disasters in

the late-1960s and early-1970s spawned considerable public outcry, bringing attention to federal politicians that something different had to be done with its incremental approach to disaster management. Media, in this context, was the glue that linked all the issue's venues and pushed Congress to redefine its noncommittal stance in combating natural disasters.

Variables and Methods

Following Baumgartner and Jones' approach closely, this project analyzes three key dependent variables: congressional and presidential activity and media attention associated with U.S. emergency disaster relief and aid from 1960 to 2000. Data sets for this study were obtained from the Policy Agenda Project (policyagenda.org), the Public Entity Risk Institute (peripresdecusa.org), and the New York Times archives. The information collected from the Policy Agenda Project, a creation of Baumgartner and Jones, includes the number of congressional hearings, the number of congressional committees and subcommittees, and the number of public laws found under the "Domestic Disaster Relief" topic code 1523. The creators of the website ask users to specifically site the following:

The data used here were originally collected by Frank R. Baumgartner and Bryan D. Jones, with the support of National Science Foundation grant numbers SBR 9320922 and

0111611, and were distributed through the Department of Government at the University of Texas at Austin. Neither NSF nor the original collectors of the data bear any responsibility for the analysis reported here.

The number of presidential emergency declarations and the funding tied to these declarations were obtained from the Public Entity Risk Institute. The website of the Institute states:

The data compiled and used in this site was compiled from the U.S. Federal Emergency Management Agency (FEMA) records in 1994, 1997, 2001, 2003, 2005, and 2006. Much of the information made available here is not maintained on current Department of Homeland Security FEMA web sites...

The media variable was created using the New York Times archives. This researcher culled through the website's two archival categories -- "1851-1980" and "since 1981"-- using "Federal Natural Disaster Emergency Relief" as the search topic. Considering this cast a fairly wide net, it was necessary to look at all 475 findings between the two categories to identify headlines that dealt exclusively with natural disasters and/or the federal handling of natural disasters.

Time will be the key independent variable. Two dummy variables have been created, one for 1974 and one for 1988, to tease out any effects these years may have on the dependent variables. This brings us to the three control variables, which include any presidential election that occurred within the established time frame (1960, 1964, 1968, 1972, 1976, 1980, 1984, 1988, 1992, 1996, and 2000). Congressional elections, although relevant to the study, were not utilized because they could create more confusion than explanations considering their sheer frequency and number over a four-

decade period. A second control variable was created to measure significant natural disasters, with significance representing the amount of money they required to handle, the amount of damage they created, and/or the amount of media attention they garnered. The last control variable is a dummy variable representing the Clinton administration (1992-2000) to examine if his tenure presents an outlier in the 20th Century, considering his liberal use of the presidential declaration process.

Considering the dependent variables suffer from first order auto-correction, it was appropriate to use an ARIMA model utilizing a Prais-Winsten correction to cleanse the data of any OLS violations. These models are fitted to time series data and, “in theory, are the most general class of models for forecasting a time series which can be stationarized by transformations such as differencing and logging” (duke.org). The model is typically classified as ARIMA (p,d,q) with p, d, and q representing the number and order of autoregressive (AR) terms, the number of non-seasonal differences (integrated), and the number of lagged forecast errors in the prediction equation (moving average), respectively (duke.org; wikipedia.org). “The Yule-Walker method can be considered as generalized least squares using OLS residuals to estimate the co-variances across observations...For a first-order AR process, the Yule-Walker estimates are often termed Prais-Winsten estimates” (support.sas.com). The empirical findings arising from these data and model are discussed in the following section.

Empirical Results

Results from seven separate ARIMA models are shown in Appendix 1. Overall, there appears to be considerable evidence that congressional activity in the emergency management policy domain increased after 1974. According to the data, there is a positive and significant impact from the 1974 law over the number of congressional hearings concerning disaster relief. Substantively, the findings imply there was an increase of 3.396 hearings after P.L. 93-288. All of the remaining variables in the model had no significant relationship with the number of hearings.

The 1974 disaster act also appears to have a positive and significant impact on both the number of congressional committees and sub-committees involved in disaster policy. The results suggest the number of different committees increased by an average of 3.22, while the number of sub-committees jumped up 2.84 after the 1974 disaster law. Again, the remaining variables in these two models do not appear to have any notable association with the number of congressional committees and sub-committees.

The one congressional variable not to have a positive and significant impact from the 1974 law is the number of public laws with a negative coefficient of $-.519$ and a p-value of $.432$. On the contrary, the Stafford Act appears to have a significant impact on the number of public laws with a p-value of $.008$. The findings suggest the 1988 disaster act, however, also has a negative impact suggesting the number of disaster laws

decreased by 1.277 on average after its passage. This may be a sign that Congress no longer needed to pass a large number of disaster-specific acts after passing the more stable 1974 law. Despite the number of public laws results, there appears to be overwhelming support for this project's first hypothesis that Congress began taking over direction of America's natural disaster policies after the Disaster Relief Act of 1974.

Moving onto presidential activity, the findings suggest the executive branch involved itself in disaster policy much later than the legislative branch. The Stafford Act, not the 1974 disaster act, had a positive and significant impact on the number of presidential emergency declarations. According to the model, the number of declarations increased by 14.51 on average after the 1988 disaster law, while the 1974 law witnessed only an increase of 2.72. Unsurprisingly considering the relationship, the significant disaster variable was also found to be positive and significant in the model. However, the rest of the variables did not register a significant impact on the number of presidential declarations.

The second measure of presidential activity is the amount of federal funding coming from presidential emergency declarations. This dependent variable was logged to better account for the fact there is considerable variance in the data, with little spending in some years and massive spending in others. Similar to the number of presidential declarations, it was found that the Stafford Act, not the 1974 law, had the more positive and profound impact on funding. Again, the disaster variable was the only other variable in the model found to be significant. Taken as a whole, these results

support the project's second hypothesis that the legislative and executive branches involved themselves in disaster law at different times.

Possibly related to the technology boom and/or the belated presidential activity, the 1988 disaster law is the only variable in the model to have a positive and significant relationship with the media dependent variable. Substantively, the findings suggest there was an increase of 5.878 articles on average concerning natural disasters and disaster relief after the Stafford Act. There appears to only be an increase of .878 articles after the 1974 disaster law. Overall, the results imply the media did not become a possible factor in natural disaster policy until the mid-to-late 1980s. Although this result was not expected, it does not undermine the project's primary focus on congressional activity with disaster policy, which increased considerably after the 1974 disaster law.

Implications and Conclusions

This project has expanded upon the existing literature concerned with the centralization of America's natural disaster emergency relief and aid. Prior published research has directly or indirectly connected U.S. disaster legislation's rapid shift from local to national control to the passage of the Stafford Act (P.L. 100-707) in the late 1980s. However, the findings here suggest this transition occurred considerably earlier and that the process was more complex than previously understood.

Consistent with Baumgartner and Jones' (1993) theory of punctuated equilibrium, the results of this study's ARIMA models indicate that the Disaster Relief Act of 1974 (P.L. 93-288), not the Stafford Act, marked the beginning of federal preeminence in the area of disaster relief and management. Three of the four congressional activity measures -- the number of hearings, as well as the number of committees and subcommittees involved in disaster relief law -- were identified as having statistically significant increases after the 1974 disaster law. Considering "Congress passes the laws, creates the programs, establishes the agencies, and appropriates the money," it is fair to surmise the centralization of U.S. natural disaster emergency relief and aid began in this period (Kettl 2007, 137).

The second finding this project contributes to the existing literature is the explicit understanding that the legislative and executive branches became proactive in emergency management at different times. Following more closely with prior published research, it was found that presidential activity, measured by the number and funding of presidential emergency declarations, did not reach statistically significant increases until after the Stafford Act of 1988. This situation may account for some of the confusion by previous scholars over when and how disaster management became the responsibility of the federal government.

So why do these findings matter? We must first appreciate what U.S. natural disaster relief and aid has become: a convoluted network that includes flows of billions of taxpayers' dollars and resources among businesses, governmental agencies on all

levels responsible for disaster relief and aid, Congress, and the executive branch. Unfortunately, this environment has produced policies ripe with moral hazard, asymmetric information sharing between governmental units, and “pork” politics. The results from this research should help foster greater awareness regarding the origins and formation of this complex policy subsystem. Perhaps more importantly, this project opens up the debate to future researchers, interested in all aspects of disaster law, to the important role(s) the legislative branch has played in the development of this policy area. It is possible that the focus on the time period when the executive branch became prominent -- starting in the late 1980s -- has led scholars to underemphasize important components of the congressional role in disaster policy. Ultimately, the whole story of U.S. disaster management is not being told and the main objective of this project is to begin that process.

Obviously, this analysis is by no means a finished product but rather a work in progress. Many questions arise from this analysis that requires further research. These include but are not limited to: Why did the executive and legislative branches get involved in disaster policy at different times? How did/do the executive and legislative branches work together or against each other in the formulation of emergency relief and aid? What factors changed in the late 20th Century that encouraged presidents to become more involved in disaster relief and aid? What role, if any, did the media (i.e. the CNN Effect) play in the executive branch becoming a more prominent player? Why did the media variable in this analysis not work as predicted? Was the measure too

blunt since it only included data from the New York Times archive? What are some more effective methods to capture the influence of the media? These are some of the subjects for further research.

One thing is for certain: the myriad politics associated with disaster law and the near certainty that another catastrophic natural disaster will strike again and shake up the political balance makes the subfield both interesting and important for America's posterity.

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*Appendix 1: ARIMA Regressions for Legislative, Executive, and Media
Activity in Disaster Relief and Aid*

Variables	Congressional Hearings	Congressional Committees	Congressional Subcommittees	Public Laws	Presidential Declarations	Declaration funding (logged)	Media
Constant	3.5 (2.3)*	2.3 (2.8)**	2.2 (2)*	1.1 (2.3)*	14.4 (2.9)**	19 (44.8)**	0.2 (0.
1974 Dummy	3.4 (2.4)*	3.2 (3.7)**	2.8 (2.7)**	-0.5 (-0.8)	2.7 (0.5)	0.1 (0.1)	0.9 (0.
1988 Dummy	0.6 (0.2)	-0.9 (-0.8)	-1.4 (-1.1)	-1.3 (-2.7)**	14.5 (3.5)**	1.6 (2.4)*	5.9 (2.6)*
Election Year	-1.2 (-1)	-0.3 (-0.4)	-0.2 (-0.2)	0.6 (1.4)	4.9 (1.4)	-0.2 (-0.8)	0.9 (0.
Clinton Dummy	-2.1 (-0.6)	-0.5 (-0.3)	-1.3 (-0.9)	1.1 (1.4)	-3.3 (-0.5)	-0.5 (-0.4)	-2.2 (-0.6)
Significant Disaster	0.3 (1)	.01 (0.7)	0.2 (1.2)	0.1 (0.9)	1.8 (4.4)**	0.2 (2.3)*	0.2 (0.

Notes: Dependent variables are made up of the legislative branch (congressional hearings, committees, subcommittees, and public laws), the executive branch (presidential declarations and funding), and media. Included are the coefficients with the z-statistics in parentheses. The sample period is 1960-2000. Number of Observations is 41.

** and * denote significance at $p < .01$ and $p < .05$ respectively.

Appendix 2: Significant U.S. Disaster Relief and Aid Legislation (1928-2000)

Year	Name and Number of Public Law	Cause for the Law
1928	Lower Mississippi Flood Control Act of 1928	Lower Mississippi River Flood of 1927
1950	Disaster Relief Act of 1950 (P.L. 81-875)	
1964	Alaskan relief program (P.L. 88-296)	"Good Friday Earthquake" of 1964
1964	Amend the Alaska Omnibus Act (P.L. 88-450)	"Good Friday Earthquake" of 1964
1965	Pacific Northwest floods relief program-special loan and grants (P.L. 89-046)	"Christmas Flood" of 1964
1965	Southeast Hurricane Disaster Relief Act (P.L. 89-339)	Hurricane Betsy of 1965
1966	Disaster Relief Act (P.L. 89-769)	Hurricane Betsy and Indiana tornado of 1965
1968	National Flood Insurance Act (P.L. 40-448, Title XIII)	Inspired by Hurricane Betsy of 1965
1969	Disaster Relief Act (P.L. 91-079)	California mudslide and Hurricane Camille of 1969
1970	Disaster Relief Act (91-606)	Outgrowth of the 1969 act and Hurricane Camille response
1971	Amendment to 1970 act (P.L. 92-209)	San Fernando earthquake of 1971
1972	Appropriate \$200 million for disaster relief (P.L. 92-337)	Tropical Storm Agnes of 1972
1972	Emergency loan assistance (P.L. 92-385)	Tropical Storm Agnes of 1972
1973	Flood Disaster Protection Act (P.L. 93-234)	Tropical Storm Agnes and Rapid City flash flood of 1972
1974	Disaster Relief Act (P.L. 93-288)	Amendments to the 1970 act and the "Super Outbreak" of tornadoes in 1974
1977	Reauthorization of the 1974 bill through fiscal year 1980 (P.L. 95-051)	
1977	Earthquake Hazard Reduction Act (P.L. 95-124)	
1980	Disaster Relief Act Amendments of 1980 (P.L. 96-568)	
1982	Coastal Barrier Resources Act (P.L. 97-348)	
1988	Robert T. Stafford Disaster Relief and Emergency Assistance Act (P.L. 100-707)	
1993	Emergency Supplemental Appropriations for Relief From the Major, Widespread Flooding in the Midwest Act of 1993 (P.L. 103-075)	Midwest Flood "Great Flood of 1993"
1993	Hazard Mitigation and Relocation Assistance Act (P.L. 103-181)	Midwest Flood "Great Flood of 1993"

1994	National Flood Insurance Reform Act (P.L. 103-325)	Midwest Flood "Great Flood of 1993"
2000	Disaster Mitigation Act (P.L. 106-390)	

Appendix 3: Significant U.S. Natural Disasters (1960 to 2000)

Year	Name/Location of Disaster
1960	Flood: New Hampshire Flood: Michigan Tornado Outbreak: Southern Great Plains "Great Chilean Earthquake" Hurricane Donna
1961	Hurricane Carla/Flooding
1962	"Columbus Day Storm"
1963	
1964	"Good Friday Earthquake" Tornado: Wichita Falls, Texas Tornado: Detroit, Michigan Hurricane Cleo: Miami, Florida
1965	"Christmas Flood of 1964" "April 1965 Flood of the Upper Mississippi River" "Palm Sunday Tornado Outbreak" "1965 Olympia Earthquake" "Twin Cities Tornado Outbreak" Flooding: South Platte and Arkansas Rivers in Colorado Hurricane Betsy
1966	"Candlestick Park Tornado Outbreak" Tornado: Polk County, Florida Tornado: Topeka, Kansas
1967	Tornado: St. Louis, Missouri "Belvidere-Oak Lawn Tornado Outbreak" "Southern Minnesota Tornado Outbreak" Hurricane Beulah/Tornado Outbreak
1968	"Wheelersburg, Ohio Tornado Outbreak" Tornado Outbreak: Mississippi Valley "Tracy Tornado"
1969	Flood: California "Hazelhurst, Mississippi Tornado Outbreak" "Independence Day Flood" "Cincinnati Tornado" Tornado: Minnesota Hurricane Camille/Flooding
1970	Tornado: Southern Great Plains Tornado: Lubbock, Texas Hurricane Celia
1971	"Sylmar Earthquake" Tornado Outbreak: Mississippi, Louisiana, Arkansas, Tennessee

- "Portland-Vancouver Tornado"
 - Flood: Southeast Oklahoma
 - "Springfield, Missouri Tornado Outbreak"
- 1972
 - Flood: Rapid City, South Dakota
 - Tropical Storm Agnes/Flooding
 - "Waukegan-North Chicago Tornado Outbreak"
- 1973
 - Tornado: Conyers, Georgia, South Carolina
 - Tornado Outbreak: Southern U.S.
 - "West Stockbridge Tornado"
- 1974
 - "Super Outbreak" of tornadoes
 - Tornado Outbreak: Southern U.S. Plains
 - Hurricane Carmen
- 1975
 - Tornado: "Great Storm of 1975"
 - Tornado: Atlanta, Georgia
 - Flood: Michigan
 - Tornado: Omaha, Nebraska
 - Tornado: Illinois
 - Hurricane Eloise
- 1976
 - Tornados: Sarasota, Florida
 - "Big Thompson Canyon Flood"
- 1977
 - "Great Lakes Blizzard of 1977"
 - Tornado "Birmingham Tornado"
 - Flood: Lake Conemaugh, Pennsylvania
- 1978
 - "Great Blizzard of 1978"
 - "Northeastern United States Blizzard of 1978"
 - Tropical Storm Amelia/Floods
 - Kansas City Flash Flood
 - Tornado: Southern Great Plains-Southern U.S.
- 1979
 - "1979 Red River Valley Tornado Outbreak"
 - Hurricane David
 - Hurricane Frederic
 - Tornado "Connecticut Tornado"
 - Earthquake: Imperial Valley, California
- 1980
 - Tornado Outbreak: Central U.S.
 - Mount St. Helens Eruption
 - "Grand Island Tornado Outbreak"
 - Hurricane Allen/Tornado Outbreak
 - Drought/Heat Wave: Central and Southern states
- 1981
 - "West Bend Tornado"
 - Tornado Outbreak: Great Plains
- 1982
 - Tornado Outbreak: Southern Plains – Mississippi Valley
 - Tornado Outbreak: Texas-Oklahoma
 - Tornado: Midwestern U.S., Illinois
 - Tornado Outbreak: Lower-Middle Mississippi Valley
 - Tornado Outbreak: Central-Southeastern U.S.

1983 Tornado Outbreak: Mississippi Valley – Great Lakes
Tornado Outbreak: Southeastern U.S.
Storms/Flooding related to El Nino
Hurricane Alicia
Storms/Flooding related to El Nino
Tornado: Selma, Alabama
Freeze: Central/Northern Florida

1984 Tornado Outbreak: North and South Carolina
"Philipp-Water Valley, Mississippi Tornado Outbreak"
"Morris, Oklahoma Tornado Outbreak"
"Mannford-New Prue, Oklahoma Tornado Outbreak"
Tornado Outbreak: Southeastern U.S
"Barneveld, Wisconsin Tornado Outbreak"
Hurricane Diana

1985 Freeze: Florida
Tornado: Niles, OH-Wheatland, Pennsylvania
Hurricane Danny/Tornado Outbreak
Hurricane Elena
Hurricane Gloria: "Storm of the Century"
Hurricane Juan/Flooding
Hurricane Kate

1986 Flood: Northern California and Western Nevada
Drought/Heat Wave: Southeast
Flood: Michigan

1987 "Androscoggin River Flood"
Tornado: Saragosa, Texas
"Arklatex Tornado Outbreak"
Tornado: Arkansas and Tennessee

1988 Tornado Outbreak: Midwest
Drought/ Heat Wave: Central and Eastern U.S.
Hurricane Gilbert/ Tornado Outbreak
Tornado Outbreak: Central-Eastern U.S.

1989 Tornado Outbreak: Mid-Atlantic–Southwest U.S
Tornado Outbreak: Northeastern U.S.
Drought: Northern Plains
Hurricane Hugo
"Loma Prieta Earthquake"
Tornado Outbreak: Southeastern United States and Mid-Atlantic States

1990 Tornado Outbreak: Central U.S.
Flooding: Texas, Oklahoma, Louisiana, Arkansas
Tornado Outbreak: Central U.S.
Tornado: Plainfield and Crest Hill, Illinois
Freeze: California

1991 "Andover, Kansas Tornado Outbreak"
Tornado Outbreak: Central Great Plains
Earthquake: Arcadia, Glendale, Los Angeles, California
Hurricane Bob

- Hurricane Grace: "The Perfect Storm"
 Firestorm: Oakland, California
- 1992 "Cape Mendocino Earthquake"
 Tornado Outbreak: Central U.S.
 Flood: Alaska
 Hurricane Andrew
 Hurricane Iniki
 Tornado Outbreak: Southern-Eastern U.S.
 Nor'easter
- 1993 Flood: Arizona
 Cyclonic Blizzard: "Storm of the Century"
 Tornado Outbreak: Oklahoma
 "Great Flood of 1993"
 Tornado Outbreak: Virginia
 Drought/Heat Wave: Southern states
 Wildfires: Southern California
- 1994 "Northridge Earthquake"
 Ice Storm: Mississippi, Arkansas, Tennessee, Alabama, Texas, Louisiana
 "Palm Sunday Tornado Outbreak"
 Tornado Outbreak: Southern Great Plains-Midwest
 Tornado Outbreak
 Tropical Storm Alberto
 Western Fire Season
 Flooding: Texas
 Hurricane Gordon
 "Thanksgiving Weekend Tornado Outbreak"
- 1995 Flood: California
 Severe Weather and Flooding: Texas, Oklahoma, Louisiana, and Mississippi
 Tornado Outbreak Sequence: Central United States
 "Great Barrington Tornado"
 Heat Wave: Chicago, Illinois
 Hurricane Erin
 Hurricane Marilyn
 Hurricane Opal
 Hurricane Roxanne
- 1996 Blizzard/Flooding: Appalachians, Mid-Atlantic, and Northeast
 "Willamette Valley Flood"
 Tornado: Selma, Alabama
 Tornado Outbreak Sequence: Texas, Arkansas, Illinois, Indiana, and Ontario
 "Blaine Tornado"
 Hurricane Bertha
 "Oakfield Tornado"
 Hurricane Fran
 Drought: Texas, Oklahoma; Tornado: West North Central States
 Flood: New England

- 1997 Flooding: California, Washington, Oregon, Idaho, Nevada, and Montana
 "Benton, Arkansas Tornado Outbreak"
 "Ohio River Valley Flood of March 1997"
 "1997 Red River Flood"
 "Miami Tornado;" Tornado: Texas
 Tornado Outbreak: Southeast Michigan-Southwestern
 "Colorado Flood of July 1997"
- 1998 "North American Ice Storm of 1998"
 Tornadoes and Flooding related to El Nino
 "Kissimmee Tornado Outbreak"
 "Gainesville-Stoneville Tornado Outbreak"
 "Comfrey-St. Peter Tornado Outbreak"
 "Birmingham Tornado"
 "Nashville Tornado outbreak"
 "Spencer Tornado"
 Tornado: New York, New Jersey, Pennsylvania, Vermont
 Severe Storms/Hail: Minnesota
 Tornado Outbreak: New York to South Carolina
 Drought/Heat Wave: Texas, Oklahoma, eastward to the Carolinas
 Severe Weather Outbreak: Wisconsin, Michigan
 Hurricane Bonnie
 "Lynbrook Tornado"
 Hurricane Georges
 Tornado Outbreak: Oklahoma
 "October 1998 Texas Flooding"
- 1999 Landslide: Washington
 "Arkansas-Tennessee" Tornado Outbreak
 "Easter Weekend 1999 Tornado Outbreak"
 Tornado: Cincinnati, Ohio
 "Oklahoma-Kansas"
 Tornado: Linden, Tennessee
 Drought/Heat Wave: Midwest and Northeast
 Tornado: Salt Lake City, Utah
 Hurricane Floyd/Flooding
- 2000 Tornado: Georgia
 Tornado: Fort Worth, Texas
 Drought/Heat Wave: South-Central and Southeastern states
 Drought/Fire Season: Western States
 Earthquake: Napa, California
 "December 2000 Tuscaloosa Tornado"