

# FEMA Reorganization and the Response to Hurricane Disaster Relief

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## Abstract

The authors offer an empirical research study intended to investigate the 2003 restructuring of the Federal Emergency Management Agency (FEMA) under the Department of Homeland Security (DHS). Our study explores the relationship between this restructuring and the efficiency of FEMA's response to hurricane disaster relief. We hypothesized that hurricane response prior to the 2003 reorganization was managed more efficiently than hurricane response following this reorganization. To investigate this hypothesis, data was collected on 22 hurricanes affecting the U.S. mainland and Hawaii from 1988 to 2005. In order to measure the efficiency of hurricane response, the following variables were examined: deaths associated with each hurricane, damage in U.S. dollars, the time it took to dispatch FEMA personnel, and the time it took to dispatch supplies to the affected sites. Since FEMA directors and U.S. presidents can also potentially impact hurricane management, they were included as independent variables.

We also conducted a public opinion survey to offer a better understanding of the public's reaction to FEMA's performance in hurricane relief management, its transition into the DHS, states' reliance on federal assistance, and the impact political affiliation has on these variables. Our findings show that since the 2003 reorganization, FEMA has displayed a significant increase in the time taken to dispatch supplies to hurricane-affected areas. Correlations also were found between the time taken to dispatch supplies and the acting FEMA director and US President. Survey results showed a significant parallelism between the overall approval of FEMA and the approval of their management of Hurricane Katrina. Further associations were found between party affiliation and reaction to Hurricane Katrina and states' reliance on the federal government in the event of a disaster.

## Introduction

Throughout its relatively brief history, the Federal Emergency Management Agency (FEMA) has undergone many incarnations. These organizational changes have largely served as a response to the unique and increasing external challenges confronting the agency, and ultimately, the nation. Perhaps the most encompassing and controversial organizational change experienced by FEMA was its absorption into the expansive Department of Homeland Security (DHS) in

2003. Created as a federal response to the September 11, 2001, terrorist attacks, the large governmental organization of DHS serves as a unified defense structure against the escalating threat of terrorism and other potential hazards (Homeland Security Act, 2002).

FEMA's assimilation into DHS, which merged more than 22 government agencies, was marked by immense skepticism and controversy. Opponents of this transition feared that revocation of FEMA's independent status would severely hamper its ability to quickly respond to disasters. This fear was largely predicated on the notion that additional bureaucratic layers create communication lapses and red tape, forcing officials to abide by tedious rules and regulations. Opponents were concerned that rather than proactively responding to disasters, FEMA would be subject to these rigid protocols, having to steer through them in order to provide vital services (Glasser & White, 2005).

Furthermore, opponents of the transition feared that disaster management would further be jeopardized due to the unintended negative consequences of merging domestic and national security issues. They asserted that, as a result of limited funds and personnel, natural disaster relief would become secondary to security issues under the new, centralized Department of Homeland Security (Glasser & White, 2005). Although not much credence was given to these arguments at the time of the merger, the recent controversy surrounding the management of Hurricane Katrina has refocused attention on these issues.

This analysis seeks to empirically examine whether there is, in fact, a relationship between the March 2003 reorganization of FEMA into the Department of Homeland Security, and its efficiency in hurricane relief management. The second segment of this investigation will examine public opinion, gleaned from a survey posted on the World Wide Web, regarding the public's approval of FEMA. This portion also is concerned with the role that political party affiliation plays in the individual evaluation of FEMA's overall performance as well as its management of Hurricane Katrina.

Understanding public opinion of FEMA and the factors contributing to the formation of this perspective is of immense significance. The Federal Emergency Management Agency exists for the very purpose of providing disaster relief and mitigation to the public. Furthermore, it is the public who is directly and irrevocably affected by FEMA's efficiency in meeting these goals. Therefore, national opinion is a valid component of the current dialogue and debate surrounding FEMA's efficacy in disaster management.

The findings yielded through this analysis are of particular importance as FEMA seeks to redefine its goals and role in a post 9/11 environment. As a result of Hurricane Katrina, national discussion and controversy continues regarding the proper role of FEMA in disaster management as well as the appropriate structure this vital agency should assume. With congressional hearings pending that seek to answer such critical questions, this study aims to contribute to the body of forthcoming answers.

## **Review of the Literature**

### *Early History of Disaster Management—1803-1930s*

The origins of federal involvement in disaster management can be traced to the early nineteenth century. At this time, local governments were primarily responsible for disaster assistance (Popkin, 1990). Yet when municipal resources were exhausted, officials could call upon state governments for help. Most states, however, were ill-equipped, unprepared, or

unwilling to intervene (Stratton, 1989). Similar problems existed at the national level, where federal assistance was often piecemeal, uncoordinated, or uncertain (May, 1985). No general policies to guide government intervention existed, and it was never clear whether the federal government should or would intervene (Schneider, 1998). The first example of the federal government becoming involved in a local disaster occurred in 1803, when a raging fire destroyed a New Hampshire community. Congress responded by passing a law that provided financial assistance to the town (Haddow & Bullock, 2003). In the century that followed, ad hoc legislation was passed more than 100 times in response to natural disasters (FEMA History, 2005).

Under Roosevelt's administration in the 1930s, the federal government began investing in emergency management functions. The Flood Control Act of 1934 gave the Army Corps of Engineers increased authority to design and build flood control projects. In addition, the Reconstruction Finance Corporation and the Bureau of Public Roads were given authority to make financial loans for repair and reconstruction of certain public facilities after disasters (Haddow & Bullock, 2003; FEMA History, 2005).

#### *Evolution of Disaster Management—1950s-1970s*

Government involvement in natural disasters evolved significantly during the middle decades of the twentieth century (Schneider, 1998). In the 1950s, the federal government began to take a systematic approach to disaster assistance. Over the next two decades, federal programs focused on civil defense against nuclear attacks and long-term recovery from natural disasters (Schneider, 1993). Congress enacted two significant pieces of legislation that made federal assistance readily available to disaster-stricken communities. First, the Civil Defense Act of 1950 delineated the first general, national policy for providing emergency relief, focusing primarily on recovery from nuclear attack. Second, the Disaster Relief Act of 1950 specified a standard process by which state and local authorities could request federal assistance, focusing on long-term recovery assistance such as grants and loans rather than on immediate disaster assistance. Both 1950 laws asserted the federal role in emergency management as secondary to state and local government efforts.

Although the 1950s were a relatively quiet time for natural disasters, commencement of the Cold War affected objectives of disaster management. First, nuclear war and nuclear fallout became the principal focus. Second, the idea of disaster preparedness emerged. As a result, state and local governments instituted civil defense programs to prepare for possible nuclear attacks. The directors of these programs became the first recognized face of emergency management in the United States.

In the following decade, massive natural disasters required major federal response and recovery operations. In 1960, the Hebgen Earthquake shook rural Montana, and Hurricane Donna hit west coast Florida. The following year, Hurricane Carla devastated Texas. In an effort to change the piecemeal federal approach to disaster assistance, President Kennedy created the Office of Emergency Preparedness in 1961 to deal with natural disasters. Subsequent calamities tested the activities of the executive preparedness office, including an earthquake, registering 9.2 on the Richter Scale, which shocked Prince William Sound, Alaska in 1964, and Hurricane Betsy that ravaged the Gulf Coast in 1965. Losses from Hurricane Betsy prompted passage of the National Flood Insurance Act of 1968, amended in 1972, requiring the mandatory purchase of flood insurance for all homeowner loans backed by federal mortgages. This flood legislation

revealed that government sought to protect individual financial investment and reduce government disaster expenditures (Haddow & Bullock, 2003).

The combination of Hurricane Betsy, Hurricane Camille in 1969, and the 1971 San Fernando earthquake, prompted passage of the Disaster Relief Act of 1974. This law firmly established the process of presidential disaster declarations and gave the Department of Housing and Urban Development the most significant authority for natural disaster response and recovery. Even with this legislation, emergency management fragmentation persisted. By the early 1970s, more than 100 federal agencies were involved in some aspect of risk and disaster management (Popkin, 1990). Parallel organizations and programs at the state and local levels added to the confusion and compounded the complexity of federal disaster relief efforts (Haddow & Bullock, 2003; FEMA History, 2005).

In the 1970s, federal response was directed at recovery, not preparation or relief operations. Two major studies of disaster assistance, one by the Office of Emergency Preparedness (1972) and another by the National Governors' Association (1978), showed a disjointed, complex emergency system torn between civil defense and disaster recovery (Schneider, 1993). The sheer number of programs and initiatives was problematic. Ambiguity of disaster relief responsibilities among various levels of government and non-governmental participants led to widespread support for developing a more organized, cohesive emergency management process with a more centralized focus (Schneider, 1998). Adding credibility to the National Governor's Association lobbying efforts at consolidation of emergency management activities into one federal agency, the 1979 nuclear power plant accident at Three Mile Island in Pennsylvania highlighted the inadequacy of federal preparedness and acted as an impetus to consolidate emergency management functions.

#### *Establishment of the Federal Emergency Management Agency*

President Carter, who was committed to streamlining all government agencies and administrative processes, was the first to restructure the emergency management system. Issuing Executive Order 12127 on March 31, 1979, Carter officially established the Federal Emergency Management Agency. The newly established agency was to be guided by Reorganization Plan Number 3, which sought to consolidate emergency preparedness, mitigation, and response activities under FEMA and to strengthen the structure, management, and operations of the government's disaster relief system (Schneider, 1995). A second executive order followed, mandating the reassignment of agencies, programs, and personnel into FEMA.<sup>1</sup> This consolidation made the agency accountable to 23 Congressional committees and sub-committees.

Adding to the complexity of program, policy, operation, and personnel integration, Carter experienced difficulty finding a director for the agency. Selecting from his cabinet, Carter appointed then-Office of Personnel Management Director, John Macy, to the post in August 1979. Macy was tasked with unifying an organization that was not only philosophically separate but geographically separate as well. Macy emphasized the similarities between natural hazards preparedness and civil defense activities by developing a new concept called Integrated Emergency Management Systems, an all-hazards approach to emergency management that

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<sup>1</sup> Departments transferred to FEMA included: National Fire Prevention and Control Administration, Federal Insurance Administration, Federal Broadcast System, Defense Civil Preparedness Agency, Federal Disaster Assistance Administration, and the Federal Preparedness Agency.

included direction, control, and warning as necessary functions for all emergencies, from small, isolated events to the supreme emergency of nuclear attack (Haddow & Bullock, 2003).

*First Shift: From Disaster Management to Nuclear Preparedness*

Macy's tenure and the all-hazards focus of disaster management ended with the incoming Reagan administration. In 1981 Louis O. Guiffrida replaced Macy as FEMA director. Although Guiffrida did not have direct experience in natural disaster management, his background involved terrorism preparedness at the state level. Between the early and mid 1980s, FEMA did not face any significant natural disasters, yet the agency continued to evolve. Guiffrida proceeded to reorganize FEMA consistent with his terrorist training experience and the president's administrative policies. Agency resources were realigned in accordance with Guiffrida's top priority: government preparedness against nuclear attack. Although Guiffrida sought to elevate and enhance the national security responsibilities of the agency and created a new national headquarters in Washington, D.C., the agency suffered from morale problems among employees.

By 1985, dislike of Guiffrida's style and questions about FEMA operations came to the attention of then-Representative Al Gore (D-TN), who served on the House Science and Technology Committee. Gore advocated congressional hearings as well as Department of Justice and Grand Jury investigations of senior political officials at FEMA. These inquiries led to the resignation of Guiffrida and other top aides in response to a variety of charges, including misuse of government funds.

In his second term, Reagan selected retired military general Julius Becton to be FEMA director. Formerly the director of the Office of Foreign Disaster Assistance in the State Department, Becton is credited with restoring integrity to the operations and appropriations of the agency. Becton continued the pattern of isolating resources for national security priorities, neglecting the potential of a major natural disaster. Of the more than 20 FEMA programs, earthquake, hurricane, and flood programs ranked near the bottom in importance (Haddow & Bullock, 2003).

In the late 1980s, Congress passed the Stafford Disaster Relief and Emergency Assistance Act (1988) that made several changes in existing federal disaster policy. First, inconsistencies in past policies were clarified by redefining the definition of an emergency situation. Second, the responsibilities and obligations of public institutions during natural disasters were expanded. Third, a process to guide when and how emergency management agencies across the intergovernmental system would become involved in a crisis situation was established (Schneider, 1998), delineating how the response would move from the local level through the state up to the federal level (Schneider, 1995). Finally, the Stafford Act of 1988 permitted the president to approve disaster declaration without congressional approval.

Even with this important piece of legislation, the ability of FEMA to support a national emergency remained in doubt. By the end of the 1980s, morale problems within the agency persisted, and poor leadership with state and local partners over agency spending and priorities caused internal strife. During the late 1980s and early 1990s, FEMA operations were severely criticized by federal authorities (Schneider, 1998).

Then, in 1989, two devastating natural disasters called FEMA's continued existence into question. The worst tropical storm in more than a decade, Hurricane Hugo attacked Puerto Rico, the U.S. Virgin Islands, North Carolina, and South Carolina, causing 85 deaths and more than \$15 billion in damages. Senator Earnest Hollings (D-SC) personally called interim FEMA director

Robert H. Morris to ask for help, but the agency responded slowly. Expressing his frustration, Hollings called the agency “the sorriest bunch of bureaucratic jackasses” on national television (Franklin, 1995, ¶ 1). Emergency management personnel at all governmental levels took steps to activate response processes; however, their actions were uncoordinated. Ineffective implementation fueled intense criticisms of the entire governmental response. Nationwide perception was that FEMA was a failure, fostering a lasting impression of governmental non-responsiveness and incompetence (Schneider, 1998). Also in 1989, the Loma Prieta earthquake shook California. While FEMA spent the 1980s focused on nuclear attack planning, state partners in emergency management concentrated on more realistic natural disaster risks. FEMA was ill-prepared for the earthquake, but the agency’s reputation was saved due to state counterpart efforts. FEMA was not so lucky with the next destructive disaster.

In 1992, Hurricane Andrew slammed into Florida and Louisiana. Federal and state emergency systems were not equipped to handle a disaster of this magnitude (Schneider, 1998). Local and state governments were overwhelmed, and for the first three days, FEMA was nowhere to be found. In a press conference, then-Emergency Management Director of Miami-Dade County in Florida, Kate Hale, questioned FEMA’s inefficient response by asking, “Where the hell is the cavalry?” (Marek, Pound, Knight, Barnes, & Slivka, 2005, p. 36). When the agency did respond, incompetence delayed relief efforts further.

Hurricane Andrew focused national attention on FEMA. As the media followed the crisis, the agency’s failure to respond was witnessed by Americans across the country. The efficacy of FEMA as the national emergency response agency was in doubt. Because lack of action prompted heavy criticism, President George H. W. Bush intervened, circumventing FEMA and dispatching Secretary of Transportation Andrew Card to take over the response operation and sending in the military. During this disaster, the FEMA director was Wallace E. Stickney, whose only qualification to lead FEMA was that he was a close friend and former neighbor of Bush Chief of Staff John Sununu.

In the wake of Hurricane Andrew, criticisms of FEMA intensified. The Wall Street Journal ran a front-page article that quoted a range of disaster specialists who thought the agency was more trouble than it was worth. Critics maintained that complete dissolution of the agency was preferable to transformation. Bureaucratic delay was one of the agency’s biggest problems. Another important impediment was a misdirected agency mission. First, FEMA was still spending half of its budget on preparation against nuclear attack and World War III. Second, the mission of natural disaster response was muddled. FEMA saw its main responsibility as distributing federal loans and grants to help rebuild an area after disaster, taking a reactionary, rather than mitigating, role. The agency would not issue aid directly to a state until a governor declared a state of emergency and specifically requested assistance (Franklin, 1995).

The established processes and systems of FEMA failed in response to Hurricane Andrew. FEMA eventually recognized the need to apply all of its resources to the response effort, using national security assets for the first time in a natural disaster response. However, the public and elected officials had already lost faith in FEMA. Starting with Hurricane Hugo three years earlier, public concern over natural disasters increased. People expected the federal government to react, but FEMA seemed incapable of carrying out the essential function of emergency management. In the aftermath of Hurricane Andrew, governmental and non-governmental watchdog groups, in concert with Government Accounting Office investigations, called for major reforms (Haddow & Bullock, 2003). Yet, for the remaining years of the Reagan administration

and the four years of President George H. W. Bush's administration, FEMA's resources and personnel focused their attention on ensuring the continuity of government operations in the event of a nuclear attack. Little attention was paid to natural hazard management.

*Second Shift: Revitalization under Witt*

During the early 1990s a great deal of attention focused on improving government performance (Osbourne & Gaebler, 1992; DiIulio, Garvey, & Kettl, 1993). The reinventing government initiative came about because public agencies responded too slowly or haphazardly to pressing public issues and were uncoordinated and disorganized (Schneider, 1998). Government reforms occurred under the activist federal administration of Clinton. As governor of Arkansas, Clinton had experience responding to several major flooding disasters and realized how important effective response and quick recovery was to communities. To implement change, Clinton nominated James L. Witt as the FEMA director in 1993. Former county judge, small business owner, and director for the Office of Emergency Services in Arkansas, Witt was the first director with direct emergency management experience. Illustrating a commitment to reinventing the emergency management system, Clinton took the unprecedented step of elevating Witt to his cabinet (Adams, 2005).

Witt revitalized FEMA through his leadership, seeking to restore the people's trust that the government would be there in times of need (Rood & Graber, 2005). His overriding mission was to provide leadership for all hazards and a comprehensive emergency management system. Over a four-year time frame, 1994 to 1998, he initiated a number of reforms (Schneider, 1998). Inside the agency, he (1) conducted a top-to-bottom review of FEMA's mission, personnel, and resources (Franklin, 1995), (2) initiated sweeping reforms that streamlined disaster relief and recovery operations, (3) emphasized preparedness and mitigation, (4) implemented customer service training, and (5) boosted employee morale. Outside the agency, he strengthened relationships with state and local emergency managers and established new connections with Congress and the media. The end of the Cold War also allowed Witt to redirect resources from civil defense to disaster relief (FEMA History, 2005).

Witt's changes were quickly tested as the nation experienced unprecedented natural disasters. The Midwest floods of 1993 resulted in disaster declarations in nine states; this time FEMA met the needs of flood victims quickly and with few bureaucratic tangles (Franklin, 1995). The Northridge Earthquake followed in 1994, testing all streamlined approaches and technology advancements for service delivery. FEMA rose to these challenges, positively changing its image in the aftermath of Hurricane Andrew. Moreover, Witt's performance was widely praised through the 1990s (Adams, 2005).

*Third Shift: Terrorism and the Department of Homeland Security*

During the 1990s, FEMA responded to over 500 emergency disasters and major disaster related events (Lehrer, 2004). Only two of those incidents were related to terrorism, the first World Trade Center bombing in 1993 and the Oklahoma City bombing in 1995. These terrorist acts represented a new phase in the evolution of emergency management and unknowingly acted as a harbinger of future terror attacks. This event led to disagreements over which agency should be responsible for response to terrorist acts. The Nunn-Lugar legislation of 1995 left the question open as to who would be the lead agency in terrorism, allowing several different agencies and departments to have a role in terrorism planning. There was some attempt at coordination, but in

general, agencies pursued their own agendas. Even amidst this confusion, by the end of the 1990s, FEMA was well received by Congress and communities.

At the request of President George W. Bush, FEMA established the Office of National Preparedness in 2001 to focus attention on the then-undeclared terrorist threat and other national security issues. This was the first step in refocusing FEMA's mission and attention from the all-hazards approach of emergency management embraced by the Clinton Administration (Haddow & Bullock, 2003). The shift in focus was accelerated by the terror attacks of September 11, 2001. The destruction of the World Trade Center and the Pentagon could arguably be considered the first national disaster event, outside of wartime, in the history of the United States. Emergency management in the United States was changed forever by the events of 9/11.

Immediately following the terrorist attacks, funding for homeland security increased dramatically, beginning with a \$40 billion emergency supplemental appropriations act, \$10.7 billion of which was appropriated for homeland security initiatives (Haynes, 2004). However, the most significant action taken by the federal government to combat terrorism was the creation of the Department of Homeland Security.

On November 25, 2002, President Bush signed into law the Homeland Security Act (2002) and announced that former Pennsylvania Governor Tom Ridge would become the secretary of DHS. This act authorized the greatest federal government reorganization since President Harry Truman joined the various branches of the armed forces under the Department of Defense. DHS has been charged with several missions: (1) to protect the United States from further terrorist attacks, (2) to reduce the nation's vulnerability to terrorism, and (3) to minimize the damage from potential terrorist attacks and natural disasters. The creation of DHS was largely in response to the criticism that increased federal intelligence and inter-agency cooperation could have prevented the 9/11 attacks (Haynes, 2004).

DHS fused over 179,000 federal employees and 22 existing federal agencies, including FEMA, under the umbrella of a single, cabinet level organization (DHS Organizational History, n.d.).<sup>2</sup> The consolidation of all federal agencies to combat terrorism follows the same logic that first established FEMA in 1979. The decision to move FEMA to DHS was intended to speed responses to threats such as nuclear weapon detonation, chemical attack, or hurricane destruction (Adams, 2005). Yet the practical effect of the restructuring has been much different.

By burying the agency within layers of a larger bureaucracy, FEMA's structure, mission, and resources have been altered (Koff, 2005; "Bush's FEMA," 2005). First, FEMA's director went from reporting directly to the president to being an underling of the DHS secretary, essentially becoming a cog on the bureaucratic wheel. Second, when FEMA folded into DHS, the agency's focus shifted primarily to management of the consequences of terrorist attacks (Lehrer, 2004). Third, FEMA officials now have to pass along requests for resources or manpower through DHS, which is oftentimes busy coordinating the efforts of dozens of agencies and offices (Adams, 2005). Furthermore, FEMA's budget and key federal disaster mitigation programs, developed over many years, have been slashed under DHS command (Rood & Graber, 2005).

Demoting FEMA from an independent agency into the Emergency Response and Preparedness directorate of the sprawling homeland security bureaucracy generated concern

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<sup>2</sup> Other federal agencies transferred to DHS included: U.S. Border Patrol, U.S. Customs, Immigration and Naturalization Service, and U.S. Coast Guard.



that the coverage of natural disasters would be diluted. The DHS planning scenarios released in the winter of 2004 illustrates the validity of this concern. Of the 15 worst-case disaster programs, 12 were terrorism related and only one dealt with a category-five hurricane (Marek et al., 2005). Additionally, homeland security officials tend to think of preparedness in terms of prevention, which is impossible with hurricanes, earthquakes, and floods (Reiss, 2005).

#### *FEMA Instability and Hurricane Katrina*

In March 2004, after the restructuring of FEMA under DHS, former FEMA Director James Witt commented, "I'm extremely concerned that the ability of our nation to prepare for and respond to disasters has been sharply eroded" (Rood & Graber, 2005, ¶ 4). Witt's concern was credible for several reasons. First, the mission of FEMA has been transformed from disaster management to management of terrorist activities. The shift towards anti-terrorism under DHS is at the expense of FEMA's natural disaster duties (Reiss, 2005). Second, FEMA lacked stability. Roughly one third of its senior staff was made of acting employees (FEMA History, 2005) because many had been retiring, frustrated by inaccessible leadership within DHS (Walker, 2005). Additionally, a 2004 survey indicated that eighty percent of FEMA employees feel that the agency has weakened by joining DHS (Marek et al., 2005). Third, since DHS conception, the disaster response agency has experienced two major reorganizations and become entangled in bureaucratic red tape (Adams, 2005). Repeated restructuring and political patronage in the upper echelon of management, especially during Republican administrations, have resulted in weakened emergency management system. Hurricane Katrina evidenced this assumption as a reality.

On August 29, 2005, Hurricane Katrina assaulted New Orleans, Louisiana, beginning the largest natural catastrophe ever to hit the United States. The result was a confused response to the worst disaster since 9/11. At the start of the storm, the FEMA director was Michael D. Brown, a politically connected attorney who previously ran an organization for breeders of Arabian horses (Marek et al., 2005). Lacking experience in crisis management, Brown waited five hours after Katrina made landfall to call upon disaster response teams and later professed that he did not know 15,000 storm victims had congregated at the New Orleans Convention Center for days without food or water (Adams, 2005). Brown failed to embrace post-9/11 disaster mechanisms, including the January 2005 National Response Plan (NRP), a 426-page document establishing DHS as the boss of all federal agencies involved in response to major catastrophes (Marek et al., 2005). Proper implementation of NRP would have permitted the FEMA director to recommend the government declare Hurricane Katrina an incident of national significance when it was clear that the hurricane would be catastrophic. This designation would have allowed FEMA to stage massive amounts of aid to the region even if the governor had not specifically requested assistance. Director Brown, however, followed his own ad hoc approach, failing to dispatch assistance until states submitted requests (Walker, 2005). Brown's decision ultimately left FEMA unprepared for the devastation of Katrina. Less than two weeks after the Katrina crisis began, DHS Secretary Michael Chertoff removed Brown from his role directing relief efforts (Adams, 2005). The White House subsequently named David Paulison, former director of the emergency preparedness division at FEMA, as acting director ("Embattled FEMA Director," 2005).

FEMA's inefficient and ineffective response efforts to the catastrophe have generated severe criticisms by elected officials. In the wake of Katrina, some members of Congress are questioning whether FEMA is able to pursue a mission of disaster management and whether

recent bureaucratic reorganizations have left FEMA powerless and without direction. In September 2005, Senator Hillary Rodham Clinton (D-NY) sponsored Senate Bill 1615 to restore the agency's independent status (Adams, 2005), and two similar measures were working through committees in the House of Representatives (Brown, 2005). Even DHS Secretary Chertoff has since recognized that FEMA might be better off with a narrower focus (Koff, 2005). Conversely, other officials believe FEMA did not fail because it is now part of DHS. Rather, FEMA failed because of ineffective leadership, ignorance of federal guidelines, and mistakes made by various levels of government. Proponents of this view assert that making FEMA an independent agency again would only further complicate the nation's ability to establish a truly all-hazards agency; the terrorist threat in emergency management should not be ignored but balanced with natural disaster preparedness (Walker, 2005).

### **Research Questions and Hypotheses**

The purpose of this research is twofold. First, in order to gain a more intricate understanding of FEMA's performance in hurricane response both prior to and following the agency's March 2003 reorganization, this investigation seeks to determine: (1) *Is there a relationship between the 2003 restructuring of FEMA and the efficiency of hurricane disaster response?* Second, this analysis seeks to explore the public's reaction and response to FEMA in the aftermath of Hurricane Katrina: (2) *Has the public opinion of FEMA changed after the handling of Hurricane Katrina?*

To adequately address these research questions four hypotheses were developed:

(H1) Hurricane response prior to 2003 was handled more efficiently than hurricane response post-2003.

(H2) Significant differences will exist concerning the efficiency of hurricane response between both FEMA directors and presidents.

(H3) There will be a positive relationship between the overall approval of FEMA and the opinion of how Hurricane Katrina was managed.

(H4) The perception of FEMA's response to Hurricane Katrina will be positive or negative based on political party affiliation.

### **Data Collection**

The following section will elucidate the key variables utilized to empirically examine the relationship between the March 2003 reorganization of FEMA under the Department of Homeland Security and its efficiency in hurricane disaster management.

#### *Dependent Variable*

In order to enhance the study's overall reliability, hurricanes were selected as the primary unit of analysis. The use of the Saffir-Simpson Hurricane Scale allows a uniform method of

reliably comparing hurricanes over a period of time.<sup>3</sup> This standard ensures that all disasters empirically evaluated in this investigation are of a similar intensity and type, each having afforded similar opportunity for preparation. Furthermore, hurricanes were a particularly appropriate unit of analysis due to their historically high frequency of occurrence. Therefore, FEMA has similar experience in providing relief for each disaster examined and an established set of guidelines for appropriate response, recovery, and mitigation efforts.

Information was obtained from the National Hurricane Center (NHC) on 22 hurricanes affecting the U.S. mainland and Hawaii from 1988 to 2005. Hurricanes were only included for analysis if they resulted in a Presidential Disaster Declaration. This declaration is a necessary requirement for an impacted region to receive federal assistance and direct FEMA intervention. A Presidential Disaster Declaration pronounces that certain areas of an affected state are of sufficient severity and magnitude to warrant an emergency declaration under the authority of the Stafford Disaster Relief and Emergency Assistance Act of 1988. Under this Act, FEMA is authorized to provide “major disaster assistance to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby” (The Federal Emergency Management Agency, 2000). All hurricanes meeting these criteria were included in the study with the exception of two, which were not utilized due to a lack of sufficient information.<sup>4</sup>

Of the 22 hurricanes included for analysis five were category 1, seven were category 2, six were category 3, three were category 4, and one was category 5. Hurricanes were grouped according to category, with categories 1 and 2 being grouped together and coded as 1, and categories 3 to 5 being grouped together and coded as 2. There were a total of five category 3 to 5 hurricanes before the March 2003 reorganization of FEMA, and a total of five following the reorganization. Additionally, there were a total of nine category 1 to 2 hurricanes prior to the reorganization and three afterward. Hurricanes were compared before and after the reorganization by assigned grouping in order to control for the effect of hurricane category and intensity on the efficiency measures employed in this investigation.

To assess FEMA’s efficiency in disaster management the following variables were measured for each hurricane: (1) number of deaths, (2) original total damage estimate in U.S. dollars, (3) total damage estimate adjusted for inflation in U.S. dollars, (4) FEMA response times for dispatching personnel to the impacted areas, and (5) FEMA response times in dispatching vital supplies to the impacted areas.

Number of deaths was obtained through NHC and includes the number of direct and indirect deaths resulting from the hurricane. For the purpose of this study, only deaths occurring in the mainland U.S. and Hawaii were included. This measure is based on the assumption that the quality of relief efforts can have a direct impact on the resulting number of deaths. This assumption is consistent with FEMA’s own Strategic Plan for the fiscal years 2003 to 2008, which lists reduction of the loss of life and property as an agency-wide goal (The Federal Emergency Management Agency, 2002).

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<sup>3</sup>The Saffir-Simpson Scale is a rating system, which assigns a hurricane to a particular category, 1 thru 5, with one being the least severe and 5 being the most severe. The intensity of the hurricane, therefore, is reflected in the category it is assigned, which includes such factors as wind speed and storm surge.

<sup>4</sup> Hurricane Bob of 1990 and Hurricane Bret of 1999 were not included for analysis. Information could not be obtained on FEMA response time in dispatching supplies or personnel to the impacted areas, both key variables measured and later discussed in this study.

Measures of property damage were also obtained from NHC. Two measures were utilized, an original total damage estimate and a total damage estimate adjusted for inflation.<sup>5</sup> Original total damage estimates were obtained by using a two to one ratio of insured damages as reported by the American Insurance Service Group. Adjusted figures represent changes in the prices of goods and services, allowing for normalized comparisons between years based on a consistent consumer index. These measures were utilized due to the assumption that effective relief efforts can lead to a reduction in property damage and are also consistent with FEMA agency wide goals to reduce the loss of property.

The final variables utilized to assess FEMA's efficiency are measures of response times. Response times were separated into two categories: (1) the time, in days, it took FEMA to dispatch personnel to the impacted area after the hurricane made landfall, and (2) the time, in days, the agency took in dispatching vital supplies such as water, food, and blankets. Since hurricanes are generally associated with multiple landfalls over a range of areas, analysis focused on FEMA's performance in the state in which a Presidential Emergency Declaration was issued, a state of emergency was declared by the governor, and the impact was considered to be the most widespread and significant.<sup>6</sup>

Response times were gathered by examining broadcast media reports and newspaper articles published at the time each hurricane made landfall.<sup>7</sup> Situation reports from state emergency departments were also utilized when available. Information from FEMA situation reports was not utilized for this study in order to maintain independence and avoid the potential bias associated with self-evaluation. Response times were only included in the event that they were corroborated by other media sources. A standard was employed, stipulating that information would only be utilized when verified by a minimum of three sources.<sup>8</sup> In order to increase diversity and minimize the potential for media bias, approximately 40 distinct sources from 12 states were included.

### *Independent Variable*

Since the reorganization of FEMA, our primary independent variable, occurred in 2003 this year served as the cutoff point in which efficiency measures were compared. Response times for supplies and personnel (coded separately), both damage estimates (also coded separately), and the number of deaths were compared before and after the 2003 cutoff point.

Also examined was the impact of various FEMA directors and presidents on the efficiency of disaster management. Each director, five in total, was given a separate code and means were compared for each efficiency measure. Mean values for the administrations of George H.W. Bush, Bill Clinton, and George W. Bush also were compared. Three hurricanes

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<sup>5</sup> Damages are listed in U.S. dollars; inflation is adjusted to the year 2004 based on Consumer Price Index inflation index provided by the National Aeronautic and Space Administration (<http://www1.jsc.nasa.gov/bu2/inflateCPI.html>).

<sup>6</sup> Determined by the number of applications submitted to FEMA for assistance, the category at landfall, the amount of damage inflicted in each affected area, and media reports.

<sup>7</sup> Media reports were located via Internet searches using Google and Yahoo. LexisNexis publication database was utilized to obtain additional articles. Only articles from U.S. news sources were included. Articles were selected that obtained information regarding FEMA response times (as defined in the data collection section of this report) to each of the 22 hurricanes evaluated in this study. The time period evaluated for each hurricane was two weeks prior to landfall and up to six months after landfall. Key words utilized in article search included: hurricane name, FEMA, Federal Emergency Management Agency, FEMA response, FEMA personnel, supplies, state of emergency, disaster declaration, and deaths.

<sup>8</sup> Three or more sources were used to verify accurate response times for 15 hurricanes, two sources were used for the remaining seven hurricanes.

occurred during the George H. W. Bush Administration, ten during the Clinton Administration, and nine during the George W. Bush Administration.

### *Public Opinion Data*

The following section will clarify key variables employed to investigate the public's opinion of FEMA. A survey was placed on the World Wide Web to obtain public opinion on a range of issues pertaining to the performance of FEMA. The survey was developed by this team of researchers at Arizona State University and placed on a publicly accessible Web site. The target population for the survey was unrestricted, and individuals were informed and invited to participate in the survey via e-mail. A combination of convenience sampling and snowball sampling was used to obtain results. Originally, 60 individuals were requested to participate in the survey and were invited to forward the URL to other willing participants. Survey sample included various members of the community, students, private sector employees and government employees. Ultimately, 116 responses were obtained and used in the study. Appendix A.1 details the survey.

### *Dependent Variable*

Questions one and two of the 20-item questionnaire assess the respondent's familiarity with FEMA and opinion of FEMA's overall performance, respectively. These responses were ordinal data coded from the most positive response as the largest number (5) to the least positive response as the lowest number (1).

Questions three and four inquire if the respondent's opinion of FEMA has changed over the last 6 months ("yes" coded as 1; "no" coded as 2), and if so what is the direction of this change. The change in direction was also ordinal data coded from most positive as the largest number (5) to the least positive as the lowest number (1).

Questions five and six request elicit the respondent's reaction to two separate statements, both intended to assess the participant's feelings on federal involvement in state disasters. These responses were also coded from the most positive as the largest number (5) to least positive as the lowest number (1).

Questions six through nine assess the participant's reactions to FEMA's handling of different disasters, assigning the most positive response as the largest number (5) to the least positive as the lowest number (1).

Question 10 solicits the respondent's knowledge about the 2003 absorption of FEMA into DHS. This is also a yes-or-no question, coded 1 for "yes" and 2 for "no."

The participant was asked in question 11 if he/she felt the incorporation of FEMA into DHS was a positive or negative change. Responses were also coded from the most positive as the largest number (5) to least positive as the lowest number (1).

Finally, respondents were asked if they had ever personally requested assistance from FEMA. The number of respondents who had requested assistance from FEMA was insignificant ( $n=3$ ) and the question was not considered in final evaluation.

### *Independent Variables*

Independent variables requested in the survey were: (1) sex, (2) education, (3) income, (4) ethnicity, (5) political affiliation, and (6) marital status. Income level was coded with the highest income range, over \$100,000, as 6 and the lowest level, under \$25,000, as 1. Political

affiliation was categorized as Republican, Democrat, Independent or No party affiliation. However, for several tests this variable was recoded to only reflect the responses of Republicans (1) and Democrats (2).

### Findings

The authors collected data on 22 hurricanes. Variables included the hurricane category, year, time of supplies dispatched, time of personnel dispatched, cost of damage incurred, adjusted cost of damage incurred, governor, president, and affected region. The intention of this research is to investigate whether a relationship exists between the 2003 restructuring of FEMA and the efficiency of hurricane disaster response. The efficiency measures were defined as: adjusted cost of damage incurred, deaths, time of personnel dispatched, and time of supplies dispatched. These dependent variables were measured against the independent variable stated above.

A cross tabulation was conducted to compare the independent variable of pre-2003 reconstruction and post-reconstruction to the dependent variables of cost adjusted for inflation, deaths, time of personnel dispatched, and time of supplies dispatched, the only significant findings were in time of supplies dispatched  $\chi^2(5, N=22) = 15.27, p < .05$ . A lambda was conducted to measure the direction of the association  $\lambda = .18, p < 0.1$ . Reflecting that when supplies dispatched is the dependent variable, we are 18% better able to predict if the year of the disaster was pre-reconstruction or post-reconstruction. A Cramer's V test  $V = .83, p > .05$  illustrating that 83% of the change in time taken for supplies to be dispatched can be explained by the timeframe of pre-reconstruction or post-reconstruction.

To further investigate the relationship between these variables an independent t-test was conducted. Therefore, the cutoff point in the test definitions was selected as 2003, group 1 < 2003 group 2 > 2003. It is important to note that due to the coding of time of supplies dispatched and time of personnel dispatched, a mean of 5.50 would indicate that, on average, it took two to three days following hurricane landfall for supplies to be dispatched. While a mean of 3.36 would indicate, on average, supplies were dispatched between the day of hurricane landfall and one day following. The variable Deaths reflects the number of deaths attributed to the hurricane. The results are as follows in table 1.

Table 1: Group Differences pre-2003 DHS incorporation and post-DHS incorporation

	Pre 2003 Post 2003	N	Mean	T	Sig.	Sig. (2-tailed)
Deaths	>= 2003	N = 8	190.38			
	< 2003	N = 15	14.67	1.10	.006	Not Sig.
FEMA Time of Supplies Dispatched	>= 2003	N = 8	5.50			
	< 2003	N = 14	3.36	2.70	.087	.014

Table 1 demonstrates the significant difference in the pre and post 2003 FEMA incorporation under the Department of Homeland Security for Deaths  $t(21) = 1.10, p < .05$ . This finding

indicates that the means of deaths incurred pre-2003 FEMA reconstruction was statistically different at the .05 level than means of deaths post 2003. Furthermore, the dependent variable time of supplies dispatched reflected a finding of  $t(20) = 2.70, p < .05$  two tailed, leading to the conclusion that time of supplies dispatched pre-2003 was statistically different than post-2003.

In an effort to determine if a relationship exists between the 2003 reconstruction and the efficiency of disaster management, a bivariate correlation was conducted. This correlation was applied to deduce whether a relationship exists and to discover the direction of the relationship. The results are displayed in table 2.

Table 2: Correlations Pre and Post Incorporation under DHS

		2003 under and over	Deaths	FEMA Personnel Dispatched	FEMA Supplies Dispatched
<b>2003 pre and post</b>	Pearson Correlation	1	.395	.435(*)	.509(*)
	Sig. (2-tailed)	.	.062	.038	.016
	N	27	23	23	22
<b>Deaths</b>	Pearson Correlation	.395	1	.550(**)	.408
	Sig. (2-tailed)	.062	.	.007	.060
	N	23	23	23	22
<b>Time of FEMA Personnel Dispatched</b>	Pearson Correlation	.435(*)	.550(**)	1	.592(**)
	Sig. (2-tailed)	.038	.007	.	.004
	N	23	23	23	22
<b>Time of FEMA Supplies Dispatched</b>	Pearson Correlation	.509(*)	.408	.592(**)	1
	Sig. (2-tailed)	.016	.060	.004	.
	N	22	22	22	22

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

Table 2 validates a positive correlation between deaths, time of personnel dispatched, and time of supplies dispatched. The direction of the relationship is positive and suggests that as time increases (1 for pre-2003 and 2 for post-2003) so, too, does the number of deaths and the amount of time taken to dispatch both personnel and supplies to the affected area.

The preceding test validates that when efficiency of hurricane relief is measured with the dependent variable of time of supplies dispatched against the independent variable of 2003 reconstruction, a statistically significant correlation is found. This finding further supports the hypothesis that hurricane response prior to 2003 was handled more efficiently than hurricane response post-2003.

In order to investigate our second hypothesis—that significant differences will exist concerning the efficiency of hurricane response between presidents and FEMA directors—a one-way ANOVA was conducted. The results of this test are presented in tables 3.1 and 3.2.

Table 3.1: ANOVA FEMA director

	df	F	Sig.
Deaths	22	.50	.77
FEMA Time of Personnel Dispatched	22	1.85	.15
FEMA Time of Supplies Dispatched	21	6.60	.002*
Damage Cost Adjusted for Inflation	20	2.34	.098

\*\* Relationship is significant at the 0.01 level  
 \* Relationship is significant at the 0.05 level

Table 3.2: ANOVA President of the United States

	df	F	Sig.
Deaths	21	.64	.534
FEMA Time of Personnel Dispatched	21	8.33	.003*
FEMA Time of Supplies Dispatched	20	4.92	.019
Damage Cost Adjusted for Inflation	19	26.80	.000**

\*\* Relationship is significant at the 0.01 level  
 \* Relationship is significant at the 0.05 level

Honestly significantly different testing (Tukey HSD) was conducted to uncover where specific differences lie between presidents along our established dependent variables. Significant differences ( $p < .05$ ) were found between the administrations of Clinton and Bush Jr. in time of supplies dispatched. Differences were also found ( $p < .05$ ) between all three presidents including George H.W. Bush, Bill Clinton, and George W. Bush in cost of damage adjusted. All three presidential administrations also differed significantly ( $p < .05$ ), in time taken to dispatch supplies. Post hoc testing was not conducted between FEMA directors due to an insufficient number of cases among the three directors.

### Public Opinion Research

Public opinion data was collected from 116 respondents who answered an on-line public opinion questionnaire with 20 items. The variables included, familiarity with FEMA, assessment of FEMA’s response to various disasters, and FEMA’s incorporation under DHS. Independent variables were sex, education, income, and party affiliation. Findings are as outlined in tables 4.1 and 4.2 below.

Table 4.1: Sex and Political Affiliation

	Percentage		Percentage
Male	47%	No party affiliation	35.9%
Female	58%	Independent	11.1%
		Democrat	29.9%
		Republican	23.1%

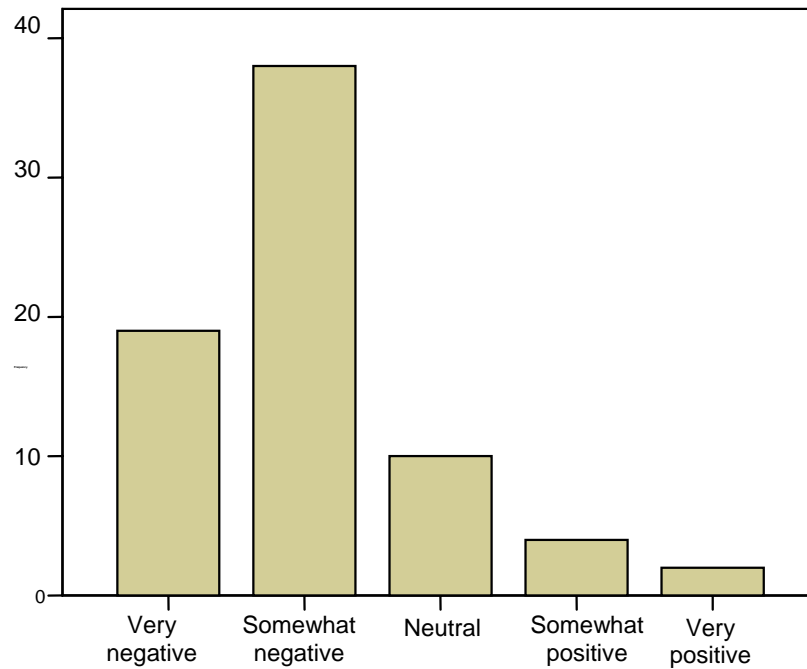
Table 4.2: Income and Education

	Percentage		Percentage
Under \$25,000	17.9%	High school or equivalent	9.4%
\$25,000 to 45,999	29.9%	Some college	12.8%
\$50,000 to 74,999	18.8%	College	42.7%
\$75,000 to 99,000	18.8%	Graduate level or above	35.0%
\$100,000 and above	7.7%		



In response to the question: “Has your opinion of FEMA changed over the past six months?” “Yes” generated a response of 61% and a “no” of 54%. Furthermore the graph below (Figure 1) illustrates responses to the question, “if your opinion of FEMA has changed over the past six months has it changed for the positive or negative?”

Figure 1: Positive or Negative Opinion of FEMA Over the Past 6 Months



Responses to the question: “Were you aware of the change in FEMA incorporating it under the advisement of the Department of Homeland Security?” generated a “Yes” response of 46% and a “No” response of 52%. Responses to the question: “Do you feel FEMA's incorporation under the Department of Homeland Security has led to more effective response to disasters in our nation?” generated 46% definitely not more effective, 34% don't know/don't care, 12% somewhat more effective, 5% definitely more effective.

This research seeks to determine whether the public opinion of FEMA has changed after the management of Hurricane Katrina, or H3, and whether the public's view reflects a relationship between the approval of FEMA and the perception of how Katrina was managed. Methods for testing this hypothesis were a bivariate correlation comparing the variables overall opinion of FEMA and handling of Hurricane Katrina. Outcomes are as follows in table 5.

Table 5: Correlation public opinion of FEMA and the handling of Hurricane Katrina

		Opinion of FEMA	FEMA response to Katrina
Opinion of FEMA	Pearson Correlation	1	.327(**)
	Sig. (2-tailed)	.	.000
	N	117	116
FEMA response to Katrina	Pearson Correlation	.327(**)	1
	Sig. (2-tailed)	.000	.
	N	116	116

\*\* Correlation is significant at the 0.01 level (2-tailed).

Both variables were coded with the most positive response being the highest number. In this case, highest level of satisfaction with FEMA’s overall job performance was set at a 5 for Very Positive. Similarly, satisfaction with FEMA’s reaction to Hurricane Katrina was coded from the highest number 6 as the most satisfied and 1 being I Don’t Know. The correlation in Table 3a is a significant positive correlation illustrating that if the respondent’s overall rating of FEMA’s job performance was high, so, too, would be the satisfaction of FEMA’s response to Hurricane Katrina. Equally, if a respondent’s reaction to FEMA’s job performance was low, so, too, would be his/her feelings towards the handling of Hurricane Katrina  $p = <.01$ .

The researchers tested whether the perception of FEMA’s response to Hurricane Katrina would be positive or negative based on the political affiliation of respondents, with an independent sample t-test. The independent variable was set as the recoded party affiliation with Republican coded as 1 and Democrat coded as 2. The dependent variables were FEMA response to Katrina and overall opinion of FEMA’s performance. Findings illustrate that both public opinion to FEMA’s performance overall and public opinion on the handling of Katrina are significantly associated with one’s political party affiliation. Both the overall satisfaction with FEMA and the handling of Hurricane Katrina were associated with party affiliation. Response to Katrina  $t(40) = 3.8, p=<.01$ , positive or negative opinion of FEMA  $t(9) = 2.0, p=<.01$ .

## Discussion

The first portion of this discussion will focus on H1 and H2, as outlined in the research questions and hypotheses section of this analysis. The second segment of this discussion will offer explanatory information on hypotheses 3 and 4.

Statistical analyses employed in this study consistently indicate that FEMA’s dispatching of supplies to disaster areas is significantly slower following the agency’s 2003 integration into the Department of Homeland Security. These findings directly support research hypothesis H1, which states that hurricane response prior to 2003 was handled more efficiently than hurricane response post-2003. There are a number of plausible explanations for this disconcerting finding.

First, as discussed in the literature review, prior to 2003, FEMA was an independent, cabinet-level agency. The assigned director reported directly to the president, a symbol of the

agency's influence and prominence within the federal government. During the 2003 restructuring, however, FEMA lost its direct accessibility to the president and became merely another subdivision within the massive Department of Homeland Security. This reorganization, therefore, added superfluous bureaucratic layers to an agency whose mission requires expedience and structure. These additional layers, however, appear to have jeopardized the agency's ability to respond quickly to emergency events and may serve as a partial explanation for the increased response time in dispatching supplies to disaster areas.

Second, although President Bush espouses an all-hazards approach to federal emergency management, attention and funding since the reorganization have been focused primarily on an anti-terrorism agenda. Studies indicate that the United States spends approximately \$180 million per year for the preparation and mitigation of natural disasters and an estimated \$20 billion for terrorism. Furthermore, the Government Accountability Office stated in a July 2005 report that out of \$3.4 billion in proposed spending for homeland security preparedness grants, approximately \$2.6 billion would be utilized for terrorism-focused programs. Although terrorism represents merely a single potential threat among a host of possibilities, these figures indicate that it has, without contention, assumed center stage in emergency management (Glasser & White, 2005).

Finally, FEMA has been unable to reach a state of stability since its integration into DHS. This instability has been heightened by the implementation of numerous resource-intensive organizational changes. In addition to the massive 2003 restructuring, Michael Chertoff, upon assuming the role of DHS director, initiated another organizational overhaul dubbed as the second stage review (Department of Homeland Security, 2005). This review proposed potential changes in the current responsibilities of the Federal Emergency Management Agency and demonstrates the large-scale confusion that continues to exist regarding FEMA's role in disaster management. In summary, since the 2003 reorganization, FEMA has become an agency that lacks direction, a balanced agenda, and organizational stability, which appear to have hindered its ability to expediently provide supplies to hurricane-impacted areas.

Hypothesis H2 predicted that significant differences would be discovered concerning the efficiency of hurricane response between both FEMA directors and U.S. presidents. Results from this analysis provide direct support for this hypothesis. The most plausible explanation for the differences between directors, which appeared in the areas of supply time dispatching, and damage adjusted for inflation, involves the experience level of each director. James L. Witt, FEMA director from 1993 to 2000, was the only director to have direct experience in the field of emergency management. By contrast, Michael Brown, an attorney with no previous disaster management experience, served as the Judges and Stewards Commissioner for the International Arabian Horse Association prior to his involvement with FEMA. Brown served as FEMA director and primary coordinator during Hurricane Katrina, before being discharged from these duties by DHS Director Michael Chertoff. Due to FEMA's continued organizational changes, it is of particular importance that its leadership possesses expert knowledge, proficiency, and experience in order to successfully meet the organization's goals for change and improved performance.

Significant differences also were found to exist between U.S. presidential administrations in the areas of damage adjusted for inflation, amount of time taken to dispatch supplies, and the amount of time taken to dispatch personnel. James L. Witt served as the

single director throughout Clinton's term in office. As a result, FEMA's performance will not vary greatly when examined through the Clinton administration or through the directorship of James L. Witt. Witt displayed lower response times in dispatching supplies to affected regions; overall hurricane-related damage was less during his tenure than for other FEMA directors. Therefore, FEMA, during the Clinton administration, performed well in these areas. Due to this inextricable relationship, it is difficult to determine whether the Clinton administration influenced hurricane management in a more positive way than other administrations, or if its heightened performance was simply a function of the director. The president, however, is responsible for choosing FEMA directors and, consequently, bears ultimate accountability for the quality of their leadership as well as the agency's overall performance. Thus, the Clinton administration may have played a significant role in FEMA's rapid response times and reduced damage estimates not simply because of the appointment of James L. Witt, but also its decision to make FEMA a cabinet-level agency.

Results from the public opinion survey issued in this study indicate that following the disaster of Hurricane Katrina, the majority of individuals adopted a somewhat negative opinion of FEMA. This finding supports hypothesis H3. Results further indicated that many of these individuals were unaware that an organizational change in FEMA had taken place. The individuals in the sample seem to be unaware of changes occurring in the structure of FEMA but acutely aware when management of a disaster is seen as botched or unacceptable. Approval of FEMA and feelings towards the management of Hurricane Katrina fall largely along party lines. This finding directly supports hypothesis H4 and also illustrates the strength of political party identification in interpreting national events. Respondents in this survey were unable to detach their opinion of the handling of Hurricane Katrina from their party affiliation.

Additional results revealed that individuals defining themselves as Republican feel the federal government should be less involved in addressing disasters within states. Furthermore, they reported that the incorporation under DHS has been a positive move for FEMA. This would point to a disconnect between the majority of Republicans surveyed and the dominant view expressed by the majority of Americans. A majority of people surveyed felt the incorporation under FEMA was a negative change, however, a majority of Republicans stated this change was primarily positive. Furthering the divide is the relationship between the transition under DHS and the subsequent slower response times in supplies reaching effected areas. This finding would indicate that although the transition has yielded measurably negative results, it continues to be viewed as a positive change by Republican respondents. Due to the large public divide concerning the federal government versus state's responsibility in emergency management, the future of FEMA and its role is also likely to be difficult and fragmented. Perhaps as more research becomes available and greater transparency is attained, party identification will play less of a role in the evaluation of public organizations such as FEMA.

## **Conclusions and Recommendations**

The central finding of this study reveals that a relationship exists between FEMA's transition into the Department of Homeland Security and its efficiency in hurricane disaster response. More specifically, findings illustrate that since the 2003 reorganization, FEMA

displays a significantly slower rate of dispatching vital supplies to hurricane-impacted areas. Furthermore, significant differences were also found to occur in the efficiency of hurricane management between both FEMA directors and U.S. presidential administrations. With regard to FEMA directors, significant differences were revealed in the amount of time taken to dispatch supplies to disaster areas and the amount of damage adjusted for inflation. With regard to presidential administrations, significant differences were found in the areas of damage adjusted for inflation, time taken to dispatch personnel, and time taken to dispatch supplies to affected regions.

Additionally, this analysis demonstrates a correlation between political party affiliation and the individual assessment of FEMA's coordination of Hurricane Katrina. Results indicate that participants identifying themselves as Republican have a more favorable opinion of FEMA's performance, while those identifying themselves as Democrat have a less favorable opinion.

The conclusions of this investigation are limited due to the small sample size of hurricanes analyzed. Furthermore, the primary method of data collection for hurricane response time was based on information extracted from media sources. This information, therefore, may be subject to any past or present media bias toward specific political orientations. This potential limitation was alleviated through the inclusion of a wide range of new sources from multiple U.S. regions.

Upon review of the relevant literature, as well as the results of this analysis, it is recommended that future research be directed toward gaining more unified, consistent efficiency measures by which to gauge FEMA's performance. Due to FEMA's all-hazards approach to emergency management, it is also recommended that future research be conducted to investigate FEMA's efficiency in the management of other types of disasters, rather than solely hurricanes. Moreover, as the competence of FEMA is increasingly questioned, it is particularly important that a meaningful dialogue among government officials, emergency management personnel, and the public occur to determine the future status and structure of FEMA. With a new hurricane season impending, policy-makers must decide whether FEMA should be returned to its former independent, cabinet-level status, or if it should remain in the Department of Homeland Security. If FEMA remains in the DHS, then clear guidelines must be established between FEMA officials, DHS personnel, and state and local officials regarding the proper coordination of hurricane relief management. Finally, it is also suggested that a greater number of independent studies be conducted to further define and examine FEMA's response time in the management of emergency relief efforts. This type of oversight adds greater transparency into the functioning of a crucial public organization and lends necessary opportunity for performance improvement.

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## Appendixes

### Appendix 1: Public Opinion Survey

Thank you for your participation in this informal survey for graduate research studies at Arizona State University. This survey will be used to measure public opinions on Federal Emergency Response. All responses will be anonymous through this web site and all information is of great value.

The survey will only take 5 minutes and once again thank you very much for your participation.

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How familiar are you with the Federal organization known as FEMA, Federal Emergency Management Agency, and the services they provide?

- Very Familiar
- Somewhat Familiar
- Not At All Familiar

How do you feel about FEMA's job performance overall?

- Very Positive
- Somewhat Positive
- Neutral
- Somewhat Negative
- Very Negative

Has your opinion regarding FEMA changed over the past 6 months?

- Yes  No

If yes has this opinion changed for the positive or negative? (If no, skip to next question)

*Tonya Adamski, Beth Kline, and Tanya Tyrrell*

- Very Positive
- Somewhat Positive
- Neutral
- Somewhat Negative
- Very Negative

Please rate your feelings on the following statements:

\* For the purposes of this survey the term disaster refers to both natural disasters such as hurricanes and intentional acts of destruction such as the attacks on the World Trade Center on 9/11/2001.

States should rely less on Federal assistance when dealing with disaster\* management within their own states.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Strongly Disagree

The Federal government should react and respond to disasters when a request is made by Governor of the affected state.

- Strongly Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree

Strongly Agree

How do you feel about FEMA's response to the following disasters

	Very Positive	Somewhat Positive	Neutral	Somewhat Negative	Very Negative	I Don't Know
The Okalahoma city bombing in 1995?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The World Trade Center attacks on September 11 <sup>th</sup> 2001?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hurricane Andrew of 1992?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hurricane Katrina of 2005?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In response to the terrorist attacks of September 11<sup>th</sup> 2001 President George W. Bush instituted the creation of the Department of Homeland Security. This new agency was the most significant transformation of the U.S. government in over half-century, largely transforming and realigning the current patchwork of government activities into a single department whose primary mission is to protect our homeland. In March of 2003 FEMA became part of the new Department of Homeland Security.

Were you aware of this change in FEMA in 2003 prior to this survey?

Yes

No

Do you feel FEMA's incorporation under the Department of Homeland Security has lead to more effective response to disasters in our nation?

Definitely

Somewhat

Don't know/Don't care

Definitely Not

Have you ever requested or received assistance from FEMA?

Yes

No

If yes, how would you rate your experience with FEMA?  
(if no, please skip to next question)

Very Positive

Somewhat Positive

Neutral

Somewhat Negative

Very Negative

What is your sex?

Male

Female

What best describes your education level?

Graduate Level or above

College

Some College

High school or equivalent



What is your income level?

- 100,000 or above
- 75,000 and 99,000
- 50,000 and 74,999
- 25,000 and 45,999
- Under 25,000

What is your ethnicity?

- African American
- Asian American (including South Asia)
- European American
- Latino/a American
- Native American
- Not Listed

What is your political affiliation?

- Republican
- Democrat
- Independent
- No party affiliation

What is your marital status?

Married

Single

Divorced

Widowed