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News that isn't "fit to print"

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News that isn't "fit to print"

by

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Abstract:

Hurricane Katrina struck land on August 29, 2005, killed more than 1,800 people, forced 800,000 out of their homes and directly affected an estimated population of 1.5 million. It flooded at least 80 percent of New Orleans and left parts of the city under 15 feet of water. The hurricane itself was a natural disaster, but the damage caused by Katrina was greatly exacerbated by flaws in protection system standards and oversight, and disregard for man-made environmental problems that increased its impact. Journalists and policymakers alike have examined what went wrong and who was responsible. But few have begun to study how the shortcomings of the American political process and constraints of mass media business practices contributed to society's failure to mitigate the harm caused by Hurricane Katrina.

After an introduction to Hurricane Katrina and an explanation of how it served as a focusing event to prompt policy change, I will discuss two areas that government and media entities have not addressed effectively enough in order to prevent further deaths and widespread destruction in the future. As a focusing event, Hurricane Katrina unveiled many weaknesses in both government organization and mass media practices that exacerbated the natural effects of the storm. I will expand upon several possible explanations for why these weaknesses exist and provide information political entities and the media can use to consciously work to overcome them.

TABLE OF CONTENTS

Introduction.....	pg. 4
Timeline of Hurricane Katrina.....	pg.10
Chapter 1: Potential focusing events and policy change.....	pg. 14
Chapter 2: Hurricane Katrina as a potential focusing event.....	pg. 18
Chapter 3: The Hurricane Protection System in Southeast Louisiana	pg. 24
Chapter 4: Coastal land loss.....	pg. 31
Chapter 5: Government organization and communication structures.....	pg. 36
Chapter 6: Mass media coverage of complex issues.....	pg. 40
Chapter 7: Newspaper coverage of Hurricane Katrina.....	pg. 45
Conclusion.....	pg. 49
Works cited.....	pg. 54

Introduction:

When signs of a recession surfaced in the late 2000s, journalists immediately increased coverage of the economy's impending downslide. As early as December and January of 2008, *The New York Times*, the "CBS Evening News with Katie Couric," and ABC's "Good Morning America" featured analysis and interviews with experts about the "growing risk of recession" (Andrews 2008, Business and Media Institute 2009). The National Bureau of Economic Research officially declared about a year later that the recession had begun in December 2007, just a month before widespread media coverage of the projected economic downturn (National Bureau of Economic Research 2008.) Large-scale financial crises literally impact everyone and are therefore impossible for the media to ignore. As is obvious from anecdotal evidence, national and local media alike dedicated massive amounts of resources to covering the recession from the first signals of its existence to today. Extensive coverage of the recession's implications, possible causes and potential policy solutions saturated the news for several years.

Crises that do not affect such a large number of people do not receive the same kind of attention in the news. Initial coverage of Hurricane Katrina focused on the deaths and destruction it caused and paid less attention to the hurricane's long-term implications, possible causes and potential solutions, especially at the national level. For weeks, media consumers could not watch TV or read a newspaper without hearing about the disaster. But most of this initial national reporting focused on the dramatic elements of the disaster without discussing why it happened or how it could have been prevented. For example, in studying the archives of one local and one national newspaper of record, I found that extensive coverage of the human-caused environmental factors that exacerbated the storm's effects was far less likely to appear in the national newspaper. In the instances when this kind of coverage did occur, it happened long after

the drama of the event had worn off and public attention had declined. It was also intermittent, signaling to the national audience that those types of issues were not pressing enough for continuous coverage.

Lacking explanatory coverage at a national level could be due to one of many institutional barriers, primarily the constraints of the mass media business practices, including the very short news cycle that leaves journalists with little time to research science-related issues and the lack of space and resources that are necessary for them to adequately expand upon such topics. “How news organizations determine the newsworthiness of various events ultimately stems from the underlying norms and incentives that drive journalism as a profession and business” (Lawrence, pg. 98, 2001). These national news sources also might have been taking their cues from the congressional agenda, which did not initially focus on the factors that made the hurricane harsher.

If these obstacles to substantial news coverage were able to prevent one of the country’s leading national newspapers from thoroughly reporting about the underlying factors that aggravated such a devastating event, they likely influenced many national news outlets. The scientific and environmental factors that make hurricanes worse in South Louisiana—poorly constructed protection systems, global warming, coastal erosion and the like—are unlikely to advance in the political agenda and be resolved unless a large, national audience pressures policymakers to follow through with proposed solutions.

In addition to those obstacles, other flaws in media practices affected coverage by both national and local newspapers. A study of reporting about Hurricane Katrina in *The New York Times*, *The Washington Post*, the New Orleans *Times-Picayune* and the Baton Rouge *Advocate*, found that 78 percent of articles “stressed government failures in the relief process rather than

the substance of essential reforms” (Graber, pg.143, 2010). These kinds of articles appeared in the most prominent spots in the newspapers. “Lacking intelligent public dialogue is one of the damaging consequences of such framing,” Graber said (pg. 143). This type of framing limited public discussion and therefore inhibited the public’s ability to use Hurricane Katrina as a focal event to ensure effective policy change.

The Great Recession and Hurricane Katrina were essentially different kinds of policy events, but the comparison still offers insight into why government responses to some types of problems are not effective. A financial crisis is primarily a federal issue, while a hurricane would fundamentally involve both the state and national governments. But global warming and coastal erosion specifically are federal issues because combating them would require a great deal of national organization, support and funding. Therefore, we are mainly comparing federal action on the two issues. It is clear policymakers focused on long-term fixes for the Great Recession because that event affected many people and consistently held the public’s attention. Federal policymakers enacted primarily short-term solutions for Hurricane Katrina because public interest dwindled after initial coverage. Public attention to the problems that caused Hurricane Katrina declined because the national media did not immediately establish a connection between the devastation of the event and its environmental causes.

Policymakers reacted to the Great Recession with both short-term fixes and long-term preventative action. In 2008, Congress passed the \$152 billion Economic Stimulus Act to stave off recession. Then in 2009, Congress included stimulus measures in the \$787 billion American Recovery and Reinvestment Act. In addition to these short-term responses, President Barack Obama and his advisers introduced a number of regulatory proposals in June 2009 to protect

consumers, hold banks accountable, expand regulation of the credit default swaps, and give the Federal Reserve more authority to regulate holding companies and large firms (Obama 2009).

In the immediate aftermath of Hurricane Katrina, Congress approved \$10.5 billion for the response in the first week and \$52 billion in the second (Brookings Institution 2005). Short-term policies focused on recovery and relief efforts, and those long-term policies that were addressed mainly concerned starting to rebuild the hurricane protection system.

Policymakers paid much less attention to the environmental factors that lead to the severity and damage of the storm because the national news media did not initially focus on that angle. A year after Katrina, a report from the Department of Homeland Security (DHS) listed federal agency responses that ranged from rebuilding the economy and infrastructure to reconstituting the justice system. That report—at almost 13,000 words—referred only once to coastal erosion. The report said the Army Corps of Engineers was developing a plan to protect the state of Louisiana from damages caused by a potential Category 5 hurricane, which would include a combination of structural features, such as levees or gates, non-structural features, which could include enhanced evacuation plans and protocols for more rigorous building codes and, finally, restoration of coastal features that can lessen storm surge.

In the few cases that policymakers did address the exacerbating environmental factors, lacking oversight has prevented much progress. The Water Resources Development Act (WRDA) in 2007 authorized \$3.49 billion for Louisiana coastal restoration projects and stipulated outside review of Corps projects (Public Law No: 110-114). But the Corps has not instituted outside review of most of its projects, and it also is not fulfilling other requirements. A March 2010 report about the WRDA said the Corps has been slow to implement reforms instituted by the act and has often “modified its implementation to fit its intended results at the

expense of the language of the statute and Congressional intent” (Sturgis 2010). The public could pressure policymakers to oversee these long-term efforts if they had better long-term, national news coverage of those issues.

Policymakers have not successfully implemented long-term policies that could prevent another Hurricane Katrina. When they have dedicated resources to fixing these problems, they have neglected to oversee the projects to ensure they are properly executed. Policymakers have not followed through with these issues because there is little national pressure to prevent events like Hurricane Katrina from happening again, at least in part because the national media have not effectively covered this angle.

Government organization also could have influenced policymakers to pay less attention to long-term preventative measures for hurricanes than they do for the economy. Dozens of federal entities regulate and study the U.S. economy, but there is no official department in charge of hurricane mitigation. Many might consider this to be the job of the Federal Emergency Management Agency, but FEMA only acts in the aftermath of a disaster. These issues might be the concern of the Department of Defense, which runs the Department of Transportation and Development (DOTD), which in turn coordinates levee defense systems through local sponsors. But those entities have a long history of losing track of delegated tasks and responsibilities. DOTD also has trouble holding those in its chain of command accountable, as I will discuss later.

Hurricane Katrina met all of the necessary criteria to focus the political agenda on the problems it revealed. It should have been a jumping- off point for both short-term policy solutions and successful long-term mitigation plans. But few policies have focused on preventative action, and none of them have effectively solved the environmental problems that

exacerbate hurricanes. We must understand the factors that kept Hurricane Katrina from prompting these desperately needed changes in order to fix shortcomings in our political and media systems that make it possible for events like this to happen again.

Timeline of Hurricane Katrina

The National Hurricane Center in Miami issued its first advisory about the tropical depression that would become Hurricane Katrina at 5 p.m. on Tuesday, August 23, 2005 (Drye 2005). By Wednesday, it strengthened into a tropical storm, and by Thursday it became a hurricane. The hurricane passed over Florida on Friday and was reclassified as a tropical storm before it traveled over the warm waters of the Gulf of Mexico and gained enough strength to once again become a hurricane, with winds reaching above 74 miles per hour. Governors Kathleen Blanco of Louisiana and Haley Barbour of Mississippi declared states of emergency on Friday when the National Hurricane Center reported the hurricane was “rapidly strengthening” as it crossed the gulf (Drye 2005). At 11 p.m. on Friday, the National Hurricane Center predicted that Katrina would be a major hurricane that would hit land in Gulfport, Mississippi and New Orleans. On Saturday, winds reached 115 miles per hour and that night the National Weather Service predicted there was a 45 percent chance that Katrina would hit New Orleans directly as a Category 4 or 5 hurricane (Brookings Institution 2005). Category 5 is the highest classification of hurricane strength on the Saffir-Simpson Hurricane Scale, and is reserved for storms with winds above 155 miles per hour. The categories are meant to communicate a storm’s potential for damage (Williams 2005).

On Sunday, winds topped 160 miles per hour. Early that day, the Department of Homeland Security Secretary Michael Chertoff and FEMA Director Michael Brown were given electronic briefings by the National Hurricane Center about the possibility of a levee break. New Orleans Mayor Ray Nagin issued a mandatory evacuation at 11 a.m. Sunday. Thirty minutes later, President George Bush issued a statement promising to help those affected by the hurricane. That night, the National Weather Service predicted levees may be “overtopped” due to

storm surge (Brookings Institution 2005).

At 6:10 a.m. on Monday, August 29, Hurricane Katrina made its initial landfall south of Buras, Louisiana as a Category 4 storm. For those who were unable to evacuate the city, shelters like the Louisiana Superdome were set up as what Nagin called “refuge[s] of last resort” (Duncan 2006). About 10,000 people were inside the Superdome when the first rain from the hurricane hit. By 9 a.m., the Lower 9th Ward levee was breached and floodwaters rose to six to eight feet in the area. Brown dispatched 1,000 FEMA response employees five hours after landfall and gave them two days to arrive. Later that day, City Hall confirmed a breach in the 17th Street levee. About 20 percent of the city was under water by 2 p.m. That afternoon, FEMA issued a statement asking first-responders to stay out of the city unless they had proper coordination with state and local officials. President Bush declared an emergency disaster for Louisiana and Mississippi and freed federal funds for the immediate response (Brookings Institution 2005).

By the end of Tuesday, floodwaters covered 80 percent of the city and were 20 feet high in some areas. Later reports would tell of breaches and overtopping at the London Avenue and Industrial canals. FEMA activated the National Response Plan and stopped volunteer firefighters from entering the city until the National Guard secured the area. Between 50,000 and 100,000 residents remained in New Orleans on roofs and in the Superdome and Convention Center. At 4:30 p.m. on Tuesday, officials asked volunteers with boats to help with rescue missions. At 5:50 p.m., President Bush announced he would cut his vacation short to oversee the response effort. An hour later, Nagin said waters would rise 12 to 15 feet in some areas and pumps would soon fail. That night, reports suggested widespread looting and the Army Corps of Engineers began work on the 17th Street levee (Brookings Institution 2005).

On Wednesday morning, Governor Blanco requested more help from the National Guard and ordered a city-wide evacuation of New Orleans. Texas agreed to house Superdome evacuees in the Houston Astrodome. About 25,000 people were in the Superdome and 52,000 were in Red Cross shelters. Evacuation buses slowly began arriving at the Superdome that morning. The Pentagon sent four Navy ships with emergency supplies and began search-and-rescue missions. The water level stopped rising, but looting, violence and carjacking reportedly grew exponentially, diverting attention and resources from search-and-rescue missions. That afternoon, FEMA deployed 39 medical teams and 1,700 trailer trucks (Brookings Institution 2005).

On Thursday, the military increased the National Guard deployment to 30,000. FEMA suspended all water rescue operations after false reports that military helicopters were shot at during evacuations. In reality, stranded residents were shooting their guns to attract rescuers. The Superdome and Convention Center were then housing up to 45,000 people. That day, Nagin issued a “desperate SOS” for more buses, while the U.S. Senate returned from a recess to begin an emergency aid bill. DHS Secretary Michael Chertoff said in an interview Thursday that he was not aware until recently that there were people taking refuge in the Convention Center, an unofficial shelter. FEMA Director Michael Brown said that night he became aware of the Convention Center shelter only hours before (Brookings Institution 2005).

On Friday, President Bush toured the Gulf area for 35 minutes from Air Force One and acknowledged government failures, calling them “not acceptable” (Fox News 2005). Twenty thousand more National Guardsmen arrived in Louisiana and Mississippi, while Congress approved \$10.5 billion for immediate rescue and relief efforts. More than 200 New Orleans police officers abandoned their jobs and at least two committed suicide. The Superdome was

fully evacuated by Sunday. On Tuesday, the Army Corps began pumping New Orleans, which was 60 percent under water. FEMA decided to give victims debit cards and Nagin authorized police and military to remove those who refused to leave their homes. Later that week, Congress approved \$52 billion more in aid (Brookings Institution 2005).

Chapter 1: Potential focusing events and policy change

In *Up and Down with Ecology: The Issue Attention Cycle*, Anthony Downs argued that public attention to policy issues is cyclical. Downs (1972) said the public pays little attention before a problem occurs and magnifies a need for policy change. After the problem, Downs said the public realizes the costs of not implementing policy change and demands action, but then public interest gradually declines. In contrast to this somewhat inflexible theory, Jack Walker (1977) found that elite and public attention can shift dramatically because of focusing events, newly released statistical reports, and other factors that affect the agenda of the U.S. Senate.

Traditionally, policy change begins when a legislator introduces an issue to the political agenda. But certain events, like natural or man-made disasters, can change this process. Policymaking is defined by the public's knowledge of policy problems and the competition among political institutions to move issues up and down the political agenda (Baumgartner and Jones 1993). "Potential focusing events," such as those Walker discussed, can level the field for traditionally less powerful groups to advance issues on the agenda (Birkland 1997). According to Birkland, a potential focusing event is:

An event that is sudden, relatively rare, can be reasonably defined as harmful or revealing the possibility of potentially greater future harms, inflicts harms or suggests potential harms that are or could be concentrated on a definable geographical area or community of interest, and that is known to policymakers and the public virtually simultaneously. (Birkland, pg. 22, 1997)

Greater attention to a problem is a requisite for policy change. The type of policy issue at hand determines whether or not interest groups mobilize and politicize the issue (Baumgartner and Jones 1993). Policy issues that affect a wider base of people are more likely to gain political steam. But when a potential focusing event occurs, even small or underrepresented groups interested in making policy changes can use the news media's immediate response to the event to

advance an issue or platform of issues to the forefront of the congressional agenda. Birkland said potential focusing events "become more difficult to contain as they gain broader attention" (pg. 25).

Even once potential focusing events become so difficult to contain that policymakers must address them, the actions of Congress do not always solve the problems revealed by those events. Baumgartner and Jones said that changes in quantitative indicators—the number of congressional hearings about an issue or the number of articles published in newspapers about an issue—do not necessarily indicate that an issue is moving up or down on the governmental or public agenda. Furthermore, even if the issue does move up on the governmental and public agendas, increased attention might not necessarily cause substantial and effective policy changes. Hurricane Katrina moved hurricanes up on the governmental and public agenda, but it mostly served to prompt policies to meet immediate relief and response needs. Public attention focused on the event's effects rather than on its causes.

Hurricanes as focusing events

Institutional barriers prevent the government from efficiently delegating hurricane mitigation tasks and communicating about preparedness. Because of the large-scale destruction caused by Hurricane Katrina and other hurricanes before and after it, policymakers must ask themselves how they can overcome the institutional barriers—communication and management structures, etc.—that prevent them from dedicating the effort and attention necessary to create efficient hurricane mitigation policies. If the political process can be changed to improve how the federal government handles hurricanes, research into the failures of the system is necessary to achieve this goal.

Birkland said six federal statutes address different problems associated with hurricanes,

but none of them address the hurricane problem directly. Rather, they “touch on the problem as part of broader issues such as flood control or barrier island conservation” (pg. 50). Birkland argues that because hurricane mitigation is not addressed as a whole, there is no community of hurricane experts at the federal level to “promote solutions to the problems revealed by hurricanes” (pg. 50). On the other hand, even when there are multiple experts available to debate solutions for specific problems, policymakers can still make mistakes in deciding which expert advice to follow (Baumgartner and Jones 1993) or lose faith in the experts if they begin to disagree about their findings (Graber 2010).

Even if the expert community comes to a strong consensus, its research may go unnoticed and unused if the media do not adequately report it to the public so the public can pressure legislators to act on the findings. Federal and state government management and communication structures inhibit how policies are designed and executed, but the media also have a hand in the potential failures of the political system in dealing with hurricanes. The media’s aversion to covering complex scientific issues contributed to a lack of thorough public understanding of factors that exacerbate the effects of hurricanes. According to Birkland:

Except for the mitigation-oriented elements of the national floodplain and flood insurance program, there is little mitigation-oriented federal policy and none concerning hurricanes per se. The lack of preventive disaster policy can be attributed to the routine pressures on government officials and citizens to deal with many other problems that are much more salient until there is a catastrophic disaster.

Birkland addresses how routine pressures on government officials and citizens can slow the process, but he does not focus on how similar pressures on the media affect their role in influencing effective long-term policy changes. Birkland said although most participants in political conflict believe media coverage of dramatic events shapes mass and elite opinions, “most research has found that the agenda-setting effect of media is likely to be transient, subtle

and largely unpredictable” (Birkland, pg.14, 1997). But in Hurricane Katrina’s case, lacking initial national coverage of certain issues is correlated with less effective solutions to those issues at the federal level. Several media outlets briefly discussed these problems later, but public attention had already decreased. Additionally, most of the outlets who did report on mitigation efforts did so only intermittently, perhaps signaling to readers that the problem was not very pressing.

The failure of the levee system is one of the most concrete examples of a policy problem revealed by Hurricane Katrina as a focal event. Repairing the levee system was high on the political and public agendas after Hurricane Katrina. But in the beginning, very little national coverage focused on the specifics of the problem: the flawed science behind the designs and the shortcuts the Army Corps took in implementing them. Current policies are not fixing the levee system, despite the great deal of attention it has been given in the media. This may be, in part, because the media neglected to cover the complicated science behind the failure initially when public attention to the problem was high.

Coastal land loss is another policy problem revealed by Hurricane Katrina. Coastal land loss is not totally neglected from the political agenda, but even experts often disagree about how to prevent further loss and rebuild barrier islands. Because the land loss happens steadily over time, experts and the media alike have difficulty presenting the issue as a pressing problem without mass amounts of long-term data. Additionally, the media often cannot cover an issue unless a new event brings it to the surface of public dialogue. Although coastal land loss is a recognized problem, policymakers have not followed through with promising solutions. If the media explained the causes and implications of coastal land loss, the public could use this information to pressure officials into productive action.

Chapter 2: Hurricane Katrina as a potential focusing event

Hurricanes, by their nature, present a unique set of circumstances for political activity. Congress usually responds to hurricanes by speeding the delivery of funding and aid to repair immediate damage and to protect against future storms. But these demands are subdued once the projects are underway or the congressional agenda shifts its attention to another disaster (Birkland 1997). It stands to reason that the policymakers rush to fulfill the most pressing needs in hurricane-affected areas but lose the motivation to address long-term, preventative measures when too much time passes or another focal event occurs. To understand how policymakers reacted to Hurricane Katrina, we must first explore how the hurricane acted as a potential focusing event.

Hurricane Katrina and its aftermath perfectly matched Birkland's criteria for a potential focusing event:

- 1. Potential focusing events occur suddenly, with little or no warning.*

Warnings of hurricanes that could potentially destroy the city of New Orleans had been coming for years from experts like Ivor Van Heerden, former deputy director of Louisiana State University's Hurricane Center. While the devastating effects of a hurricane like Katrina had been predicted for a long time, few in positions of power recognized the potential for extensive damage. "If a hurricane comes next month, New Orleans could no longer exist," Van Heerden said in a U.S. News and World Report article published July 10, 2005 (Gilgoff 2005). "New Orleans sits below sea level and is locked in by an extensive levee network, like a giant flood-prone bowl; a modest Category 3 storm could deposit up to 27 feet of water in some neighborhoods," the article said. But Van Heerden and most other scientists' warnings went unheard. In 2004, FEMA funded a hurricane preparedness exercise for New Orleans that

predicted widespread flooding and the displacement of hundreds of thousands of people (The Storm, pg. 7, 2006). “Despite all the warnings and studies, every system—from emergency preparedness to health care to post-hurricane relief—seemed to crumble when the storm barreled into New Orleans” (Bergal, pg. 5, 2007).

Hurricane Katrina was tracked by the National Weather Service beginning with its formation as a tropical depression on Tuesday, August 23. The hurricane did not reach Category 3 level until Saturday, August 27, giving residents and local government only a few days to prepare once they were told of the expected intensity of the storm. Although government officials and residents had several days notice of the storm, they only heard predictions of widespread devastation about two days before the hurricane’s landfall. Most of these predictions were not communicated effectively or taken seriously until it was too late for many poor, unprepared or stubborn residents to leave the city.

Most of the catastrophic damage from Hurricane Katrina occurred when levees began to breach and overtop several hours after the storm made landfall around 6 a.m. on Monday, August 29. The National Weather Service office in Slidell, Louisiana issued a warning at 8:14 a.m. Monday about a breach in the levee along the Industrial Canal. But that office lost power, and when the office in Mobile, Alabama took over, the message was lost in the shuffle (The Storm 2006). Therefore, the public had no warning of the extreme severity of the ensuing flooding.

2. *Potential focusing events are generally rare, and, as a consequence, are unpredictable and unplanned.*

Birkland explains the difference in potential focal power between an airplane crash and a car crash. Because car crashes happen so often, our society has learned to weigh the consequences of those accidents against the benefits of increased mobility. But airplane crashes

happen so infrequently that we go to great lengths to institute regulations to prevent them. Automobile safety campaigns are a result of public attention to trends of increasing highway deaths. But a single car crash, unlike an airplane crash, does not serve as a dramatic enough event to spur public interest and policymaking. Airplane crashes have more potential focal power because they are less routine and expected. Additionally, individual car crashes have little impact on policy because they only kill a few people at a time. But trends of dramatically increasing highway fatalities and individual airplane crashes do spur policy change because they affect a greater number of people.

Similarly, the Gulf Coast region as a whole braces for hurricane season each year. Residents accept hurricane damage as a potential consequence of living on the Gulf Coast that they have weighed against the benefits of living there. But individual areas do not expect to be hit by a hurricane as damaging as Katrina. The Gulf Coast region can plan for hurricanes, but until just a few days beforehand, even climatologists cannot predict the location or severity of a hurricane. As with airplane crashes, a hurricane at a particular place and time is unexpected even though the public knows there will be hurricanes.

Moreover, rare events are often frightening, and fear increases an event's focal power. "More frightening events are more focal because they increase attention on events about which society as a whole would likely wish to know more, so that their effects can be mitigated," Birkland said (pg. 24). Because Hurricane Katrina was frightening, it should have increased mitigation efforts.

3. Potential focusing events affect a large number of people (either in the same geographic area or in a community of interest) and reveal a current harm and/or a potential future harm.

Hurricane Katrina was either directly or indirectly responsible for more than 1,800 fatalities and displaced around 500,000 residents for at least 70 days. Total property damage was estimated at \$81 billion (National Hurricane Center 2005, The Brookings Institution 2005). Additionally, the hurricane and its aftermath caused long-lasting psychological and economic damage to much of the Gulf Coast region. Hurricane Katrina affected the entire geographic region of the Gulf Coast and those regions to which displaced residents fled. The event also stirred action in several communities of interest that were focused on different potential underlying causes of the poor government response. Critics who blamed political partisanship for the government's poor response rallied together as did those who alleged that racism contributed to the lacking evacuation plans or ensuing police brutality in the poorest New Orleans neighborhoods ("Green light for New Orleans Brutality: An editorial" 2010).

"The people of New Orleans could have been helped, and well-meaning, dedicated people tried to help; but far too often the best intentions were stymied by red tape, bureaucratic inefficiency and the apparent inability of anyone who was in a position to be of aid to see the big picture," said Dan Rather in the foreword to *City Adrift*, a 2005 investigation by the Center for Public Integrity (pg. xii). Rather's sentiment represents the shocking revelation that most of the nation experienced while watching the events of Hurricane Katrina unfold. The hurricane revealed current problems in government leadership and communications, emergency evacuation plans and the hurricane protection system. And, perhaps more importantly, it brought to life some of the warnings that scientists like Ivor Van Heerden had been broadcasting for years: Louisiana was losing its only natural shield against hurricanes as coastal wetlands disappeared. The state has lost about 1,900 square miles of coastal land since the 1930s (Bergel 2005).

4. The public and policymakers learn of potential focusing events virtually simultaneously.

When the public and policymakers learn of a potential focusing event at the same time, it becomes very difficult to keep the issue off the policy agenda. Therefore, the public or special interest groups can, often with the help of the media, use a potential focusing event to springboard an issue or platform of issues to the forefront of the political agenda. Political researchers have known for years that greater attention to a problem usually occurs before policy change (Baumgartner and Jones 1993). But a focusing event is more effective when accompanied with evidence that the problems revealed are important and relevant (Kingdon 1995).

The suddenness and drama of Hurricane Katrina fit news criteria well, and therefore the event was given a great deal of attention and prominence in the media for several weeks. Environmental disasters lend themselves to vivid imagery, which is an important factor in the logistics of news production. The media worked quickly to publish news about the hurricane because it affected so many people and easily drew the public's attention. Therefore, the public learned of the severity of the hurricane at about the same time as policymakers.

According to Birkland, three main elements of focusing events induce media coverage: how many people are affected by the event, whether the harms are visible and highly tangible and the rarity or novelty of the event. Because Hurricane Katrina exemplified all of these elements, media coverage was high, and so was public interest.

“Greater levels of news coverage are associated [with] greater levels of institutional attention to public problems...But the media's influence goes beyond its ability to pressure policymakers to pay attention to problems,” Birkland said (pg. 30). The news media tend to

respond immediately to events and then move on quickly to other novel stories, but this short-lived news response triggers the beginning of a longer-term political process (Birkland 1997).

But this long-term political process does not necessarily solve all of the problems revealed.

News coverage of focusing events prompts the public and special interest groups to put more pressure on policymakers, but the issues they push onto the political agenda often are determined by media coverage. Initial national news coverage did increase scrutiny of many issues, but it did not pressure policymakers to find effective solutions to exacerbating factors of hurricanes because it did not explain those problems. Some national news outlets discussed these issues in-depth later, but those stories did not carry the same weight as initial coverage because the novelty and drama of the story had worn off.

Chapter 3: The Hurricane Protection System in Southeast Louisiana

The hurricane protection system in Southeast Louisiana consists of a complicated assemblage of levees, floodwalls, floodgates, canals and pumps designed to remove rainwater. Levee breaches were the most commonly discussed cause of the protection system's failure, although they certainly were not the only element in the setup that faltered under pressure. Levees are large walls, typically of earth or stone, made to protect vulnerable regions from hurricanes and floods. They line the Mississippi River and its gulf outlet and the banks of Lake Pontchartrain. Katrina's storm surges reached as high as 27 feet above normal sea levels in Mississippi and between 18 and 25 feet in Louisiana. No levees or floodwalls in New Orleans were higher than 17 feet (Hurricane Katrina: A Nation Still Unprepared, pg. 30, 2006).

Simple overtopping "may have caused an equal amount of damage," but levees began to breach, or break, as early as the hurricane's landfall (Hurricane Katrina: A Nation Still Unprepared, pg. 30, 2006). This distinction between overtopping and breaching is important because breaches in the levees indicated flaws in design and upkeep in addition to a failure to plan for the intensity of flooding caused by a hurricane of Katrina's strength.

The Army Corps of Engineers, an agency within the Department of Defense, is responsible for coordinating the collaborative efforts between federal and local governments in the creation and maintenance of the New Orleans levee system. Civilian flood control operations are also maintained with the authorization of Congress. This New Orleans levee system, called the Lake Pontchartrain and Vicinity Hurricane Protection Project (Lake Pontchartrain Project), includes the 17th Street and London Avenue Canals, New Orleans East and most of St. Bernard Parish—the areas that experienced major breaches and flooding during the hurricane (Hurricane Katrina: A Nation Still Unprepared, pg. 146, 2006).

The Corps was responsible for designing and constructing the Lake Pontchartrain Project, and local governments provided the land for levee construction and shared the costs. According to the rules that delegate maintenance of levees to federal and local entities, the Corps was required to provide local sponsors with an operations manual and to conduct annual inspections to ensure the local sponsors were following regulations. The Corps also had “statutory authority” to anticipate and respond to flood emergencies. This flood-fighting authority is outlined by Public Law 84-99, also known as the Flood Act (Hurricane Katrina: A Nation Still Unprepared, pg. 146, 2006).

The ineptitude of local levee sponsors

The Army Corps of Engineers received most of the heat for the failure of the New Orleans levee system, but the local sponsors, especially the Orleans Levee District, demonstrated extremely poor judgment in the operation and maintenance of its flood control units. The 2006 Senate report on Hurricane Katrina explained the specific duties of local sponsors:

Like the Corps under the Flood Act, the levee districts have broad statutory obligations in addition to their obligations under their assurance agreements on individual levee projects. For example, regardless whether a project was being designed and constructed by the Corps or had been turned over for O&M to the local sponsor, state law charged the levee districts with adopting rules and regulations for maintaining a “comprehensive levee system.” State law authorized them to obtain engineering assistance from the Louisiana Department of Transportation and Development (LA DOTD) in Baton Rouge if they needed additional technical expertise. State law also required levee-district board members to attend once during their term in office an educational program on how to care for and inspect levees. (Hurricane Katrina: A Nation Still Unprepared, pg. 147, 2006)

The state law also authorizes the levee districts to raise money through taxing and bonds to pay for its portion of levee operation and maintenance. The Orleans Levee District was allowed to engage in business enterprises, “making the Orleans Levee District a unique entity with some governmental qualities (taxing and bonding authority) and some corporate qualities: the authority

to engage in for-profit businesses like operating the Lakefront Airport, running two marinas along Lake Pontchartrain, and leasing dock space to a riverboat casino” (Hurricane Katrina: A Nation Still Unprepared, pg. 147, 2006).

In June 2005, the Orleans Levee District reported collecting \$24 million from property taxes and \$14 million from business activities in the past year. The district also reported having \$21 million in unallocated general funds and \$13 million in a “special levee improvement fund” (Hurricane Katrina: A Nation Still Unprepared, pg. 147, 2006). The levee district’s former president, Jim Huey, said the improvement fund could “only be used for flood protection projects and/or flood-related projects” (Hurricane Katrina: A Nation Still Unprepared, pg. 147, 2006).

Although the levee district’s primary responsibility was flood protection it spent large amounts on non-flood related activities (e.g., the licensing of a casino or the operation of an airport and marinas or the leasing of space to a karate club, beautician schools or restaurants) rather than apply the money to flood protection or emergency preparedness. For example, the Orleans Levee District’s Emergency Operations Center (EOC) sat outside the protection of the levee system at the Lakefront Airport, vulnerable to the very hurricanes the levee system was designed to protect against. For years the district had studied moving its EOC inside the flood protection system, but never did. The levee district’s Chief Engineer, Stevan Spencer, described the situation as a “very bad joke” that dated back to at least 1998, when Hurricane Georges flooded the airport. Spencer said “there was never funding” to move the EOC. Yet in 2003, the Orleans Levee District spent \$2.4 million to repair the “Mardi Gras Fountain” in a park near Lake Pontchartrain. When Katrina made landfall, Orleans Levee District staff had to be rescued, mostly by boat, from the flooded EOC at the airport before they could survey damage or assist with repair efforts at the 17th Street and London Avenue Canals. (Hurricane Katrina: A Nation Still Unprepared, pg. 147, 2006)

Huey could not provide an explanation of how the district made spending decisions but cited the district’s multi-fold obligations as a defense of the lack of organization (Hurricane Katrina: A Nation Still Unprepared, pg. 147, 2006).

The Department of Transportation and Development (DOTD) and its Office of Public Works (OPW) are legally responsible to assist and oversee specific levee district functions, including authorizing activities that might compromise the levees and administering training to

board members and inspectors. When asked about the training requirement, Huey, who spent 13 years on the board and 9 as president, said he had never heard of it. “You know what that is? That’s going up to a workshop for a weekend and having a crawfish boil up here and hear a couple people talk about some things and they get a little piece of paper and they honored the law,” Huey said (Hurricane Katrina: A Nation Still Unprepared, pg. 148, 2006). He said the training administrators, the Association of Levee Boards of Louisiana, also did not discuss levee inspection (Hurricane Katrina: A Nation Still Unprepared, pg. 148, 2006).

Edmund Preau, an assistant secretary for DOTD’s Office of Public Works (the department responsible for levee issues) during Hurricane Katrina and presently, said DOTD’s mandatory biennial review of each levee district’s emergency-operations manual did not assess whether they had stockpiled materials or had the personnel necessary to handle emergency situations. Preau said the review merely checked that the districts had updated their contact information and included any additions to their flood-control systems in the plan. Preau tried to pass the responsibility to conduct in-depth reviews to Louisiana’s Emergency Operations Plan, but the EOP had previously made DOTD the primary agency overseeing “construction, maintenance and repair of state flood control works” (Hurricane Katrina: A Nation Still Unprepared, pg. 149, 2006). Preau interpreted the language of the statute delegating this responsibility to DOTD as ambiguous; he said DOTD was responsible only for state-owned systems and not all of the systems within the state (Hurricane Katrina: A Nation Still Unprepared, pgs. 148-50, 2006).

“This response is problematic: the responsibilities articulated under ESF-3 are specifically delegated to the LA DOTD, and the plain language employed by the State’s Emergency Operations Plan cannot be unilaterally dismissed as meaningless by the people it covers,” (Hurricane Katrina: A Nation Still Unprepared, pg. 149, 2006). Such defenses of agency failures

are commonplace and blur the trail of responsibility for ineffective and inadequate preparation and response methods, making it incredibly difficult for Congress to analyze how mistakes were made and how to prevent them in the future (Hurricane Katrina: A Nation Still Unprepared, pg. 149, 2006).

Design and construction of the New Orleans levee system

In 1965, Congress authorized the design and construction of 125 miles of levees and floodwalls to be completed by 1978 at a cost of \$85 million. When Katrina hit, the project still was not complete and its cost had grown to more than \$750 million. The project was supposed to protect against a “Standard Project Hurricane (SPH),” a model storm based on “the most severe combination of meteorological conditions considered reasonably characteristic of that region” (Hurricane Katrina: A Nation Still Unprepared, pg. 150, 2006). The SPH was developed in 1959, updated after the devastating impact of Hurricane Betsy in 1968, and revised in 1970, 1977 and 1979. The project’s design was not updated to meet the revised standards implemented after 1968 (Hurricane Katrina: A Nation Still Unprepared, pg. 150, 2006).

The initial analysis in 1959 of the U.S. Weather Bureau’s 1 in 100 year Standard Project Hurricane was known to be obsolete by 1972, as construction of the Greater New Orleans Hurricane Protection System were beginning. By 1972, the National Weather Service had increased maximum sustained wind speed by 20 percent (from 107 to 129 mph). “A 20 percent underestimate of maximum winds can lead to a 40 percent reduction in the predicted surge elevation,” (Team Louisiana, pg.7, 2006). In 1979, the National Weather Service again raised maximum sustained wins, this time to 140 mph. Therefore, the Army Corps of Engineers built its levees to protect for a hurricane at least 33 mph under what the National Weather Service suggested.

Despite this miscalculation, the Corps' New Orleans District widely held the incorrect view that the system could protect against a moderate Category 3 hurricane (Hurricane Katrina: A Nation Still Unprepared, pg. 150, 2006). "It has been known for at least a decade that the bulge of water, or 'surge,' pushed ashore by a Saffir-Simpson Category 3 hurricane, approaching at a range of speeds from a number of directions, could overtop New Orleans flood defenses on both the east and west banks of the Mississippi," said the team Van Heerden led to prepare a report for DOTD Secretary John Bradberry (Team Louisiana, pg. 18, 2006). "Engineers...must all deal with uncertainty and follow accepted practice to account for unknowns that increase the risk of failure," that report said (pg. 24).

The National Weather Service decided from a model of projected storm surges that the Lake Pontchartrain Project would be vulnerable to overtopping during Category 3 and even some Category 2 hurricanes. Wilson Shaffer, a storm surge analyst for NWS, said this news was shared with the Corps by at least 2003 or 2004. The new data was also shared with Louisiana Homeland Security and Emergency Preparedness and with state and local emergency managers at the Louisiana Emergency Preparedness Associations conferences in June 2004 and 2005 (Hurricane Katrina: A Nation Still Unprepared, pg. 151, 2006).

"At a minimum, this information should have prompted a fresh look at the adequacy of the Lake Pontchartrain Project, but like the NOAA updates to the Standard Project Hurricane in the 1970s, it does not appear that either the state or the Corps took any action to respond to the new information" (Hurricane Katrina: A Nation Still Unprepared, pg. 152, 2006). Not only did the Corps build to projection standards that had since been raised; studies by independent experts have revealed that in many cases the Corps failed to meet even the prior standards (Team Louisiana 2006). Because the Corps used the wrong elevation calculation, floodwall and levee

crown elevations were built one to two feet too low (Team Louisiana, pg. 8, 2006).

Communication weaknesses

Most of the failures of the New Orleans levee system are due at least in part to poor government communication and coordination either between layers of management or between departments. Communications about flood protection regulations between federal, state and local governments add another dimension of difficulty to mitigation planning efforts. The legal duties of local levee districts are often quite complex in theory, and it is difficult to simplify them to determine which parts of the system and its upkeep local sponsors are responsible for in practice. To add to this trouble, local levee districts are often too sidetracked by other endeavors (including leasing dock space to riverboat casinos) to take the time to translate these legal duties into plain, practical language.

The management system of the U.S. government naturally prevents communication between the highest and lowest entities in its hierarchy, as I will explain later. This structure of government is efficient for many domestic policy issues, but it is inefficient for those that involve many sectors and many layers of bureaucracy and/or demand the use of expert scientific knowledge. Many have tried to pass the blame for the levee deficiency to government sectors like FEMA or even to individual administrators like Preau, but Hurricane Katrina revealed policy failures in everything from health to transportation and these repeated failures indicate an underlying problem in organization of and communication between government entities.

Chapter 4: Coastal land loss

Two years after Hurricane Katrina, National Geographic skirted around an idea that didn't sit well with Louisiana residents: was it really a good idea for New Orleanians move back to a city that was so difficult to defend against seemingly inevitable large-scale natural disasters? National Geographic wasn't the first and it certainly wasn't the only publication to suggest that Hurricane Katrina was a metaphorical "warning shot," a message from Mother Nature that it would take more than some flimsy levees and an inadequately maintained flood system to protect against her wrath. But it was one of the first widely read, credible news sources to give the underlying environmental factors of the strength of the storm the kind of space and attention it deserved.

National Geographic's Joel Bourne said three major factors made Hurricane Katrina worse than it should have been: wetland erosion caused by upstream dams and levees that steal sediment and nutrients that would normally flow downstream into the delta, rising sea levels that cause more land loss and warmer seas that make hurricanes stronger and more frequent. "Louisiana has lost 1,900 square miles of coastal lands since the 1930s," Bourne said. "Katrina and Hurricane Rita together took out 217 miles, putting the city that much closer to the open Gulf" (pg.41). A more concrete measure often used to describe the amount of coastal land that disappears from Louisiana is about a football field per *hour*, a conservative estimate. Louisiana contains 40 percent of the country's coastal wetlands, but it experiences 80 percent of wetland losses (Felsher 2010). "From 1984 to 2004, Louisiana lost about 12 square miles of wetlands each year," said U.S. Geological Surveyor John Barras in an interview for a fishing article in the *Examiner* in 2010. "After the 2005 hurricanes, that figure jumped to about 15 square miles a year," (Felsher 2010).

The most harrowing part of the story, Bourne said, is that the city isn't taking the necessary steps to prevent this sort of disaster from happening again: "Instead of rebuilding smarter or surrendering, New Orleans is doing what it has always done after such disasters: bumping up the levees just a little higher, rebuilding the same flood-prone houses back in the same low spots, and praying that hurricanes hit elsewhere" (pg. 42).

Reports from teams of outside experts who investigated Hurricane Katrina found that "the devastation of New Orleans was a disaster waiting to happen because of a significant flaw in levee design by the Army Corps of Engineers," (Schwartz 2005). The Army Corps of Engineers estimated in 2007 that it could strengthen the levee system to protect against a 1-in-100 year or Category 3 hurricane like Katrina by 2010. But 2010 has come and gone, and hurricane experts who initially revealed the flaws in the Corps' levee designs aren't buying what the Corps is saying about the revamped system. Van Heerden said on PBS' "Newshour" in August 2010 that he "still has major concerns with the science" and that "the levees aren't going to offer any more protection than what we saw with Katrina" (PBS 2010). In that same interview, John Barry, Southeast Louisiana Flood Protection Authority, said the real challenge lies not in raising the levees but in rebuilding the coast, which has "eroded for the benefit of the shipping industry, which means interstate and international commerce and the oil industry, which has dredged canals through the marsh primarily" (PBS 2010). Van Heerden made that same point in his book *The Storm* with Mike Bryan. "Many of the scientists who have studied the wetlands distribute responsibility for their disappearance more or less equally among three factors: subsidence and the lack of river sediments, the oil and gas industry and erosion," (The Storm, pg.163, 2006).

Oil and gas in South Louisiana

John Barry's point is one that Mike Tidwell covered extensively in his 2003 book, *Bayou Farewell*, which Louisiana Gov. Mike Foster purchased fifteen hundred copies of to give to every member of the Louisiana legislature, every member of the U.S. Congress and President George W. Bush. Tidwell said oil exploration in Louisiana's bayou region really began in the 1930s (Tidwell, pg. 35, 2003). "It was the dawn of a Louisiana gold rush, the infrastructure of which still produces and/or processes a staggering 18 percent of annual U.S. oil supplies and 24 percent of U.S. natural gas," (Tidwell, pg. 35, 2003). Big companies, such as Texaco and Amoco, launched "extensive" canal dredging that lasted for almost half a century (Tidwell, pg. 35, 2003). Many people do not know that these canals—which crisscross the bayou region to form hundreds of transport routes for oil companies—cause severe erosion. Canals that were originally 30 feet wide have grown to six times that size due to wave-action erosion from the boats that travel them and storms that damage fragile marsh grass and its mud base. In all, there are 10,000 miles of these canals across the Louisiana coast (Tidwell, pg. 36, 2003).

In addition to books like Tidwell's that were clearly available to legislators and explained the seriousness of coastal land loss in-depth, many media outlets also covered the issue in the years before Hurricane Katrina. Tidwell said in his 2006 book, *The Ravaging Tide*, that major articles describing the disappearing coastland appeared in the Baton Rouge *Advocate* (1999), *Scientific America* (2001), New Orleans *Times Picayune* (2002), the *Washington Post* (2003) and *National Geographic* (2004). Even more discouraging, Tidwell said scientists as far back as the 1970s had "established that a series of feasible engineering projects not only could counteract much of the subsidence but could actually create *new* barrier islands and wetlands fairly rapidly"

(Tidwell, pg. 31, 2006). The press knew, the government knew and the scientists had figured out a way to fix the problem. So why didn't it happen? The price tag.

The Coast 2050 plan by geologists at Louisiana State University would have cost \$14 billion. "Foster's requests for full funding of the Coast 2050 plan were ignored by the president. So were multiple pleas from Louisiana's bipartisan delegation to Congress. In January 2004, soon after being elected, Louisiana's new Democratic governor Kathleen Blanco met personally with Bush and renewed the urgent call. But again nothing," Tidwell said (pg. 31). Congress did, in the summer before Hurricane Katrina, appropriate some money for coastal restoration in Louisiana—\$570 million, a mere drop in the bucket compared to the needed \$14 billion (Tidwell, pg. 32, 2006).

Tidwell explored a few reasons why, despite repeated warnings from geologists and journalists, American society did nothing substantial to fix the levee system or counteract the erosion that made the coast even weaker. He looked into some hypotheses from Jared Diamond, the Pulitzer Prize-winning author and geographer who wrote the 2005 book *Collapse: How Societies Choose to Fail or Succeed*. Tidwell decided that a couple of factors that explained what Diamond called the "failures of group decision-making" (which led highly complex societies like the one on Easter Island 500 years ago to self destruct) applied to the events surrounding Hurricane Katrina (pg. 35). For one, societies pursue short-term gains at the expense of long-term survival. It was easier to put an incredibly expensive coastal restoration project on the backburner and continue spending billions on what politicians portrayed as disarming terrorist threats through the Iraq War. It was also easier, at least until the 80s, for the all-powerful oil and gas companies to keep dredging canals in delicate marshlands and therefore starving the coast of sediment in exchange for immediate, enormous profits.

Tidwell also likes Diamond's idea that "elite, unresponsive leaders...insulate themselves from the results of their actions," (Tidwell, pg. 35, 2006). Diamond said chiefs on Easter Island "did not begin to feel deprived until they had irreversibly destroyed their landscape" (Tidwell, pg, 35, 2006). Tidwell said the levees "made prosperity possible for a very long time, but their continued use ultimately destroyed the entire landscape upon which the society was based" because they prevented the restorative flooding that had previously prevented the coast from disappearing (Tidwell, pg. 36, 2006).

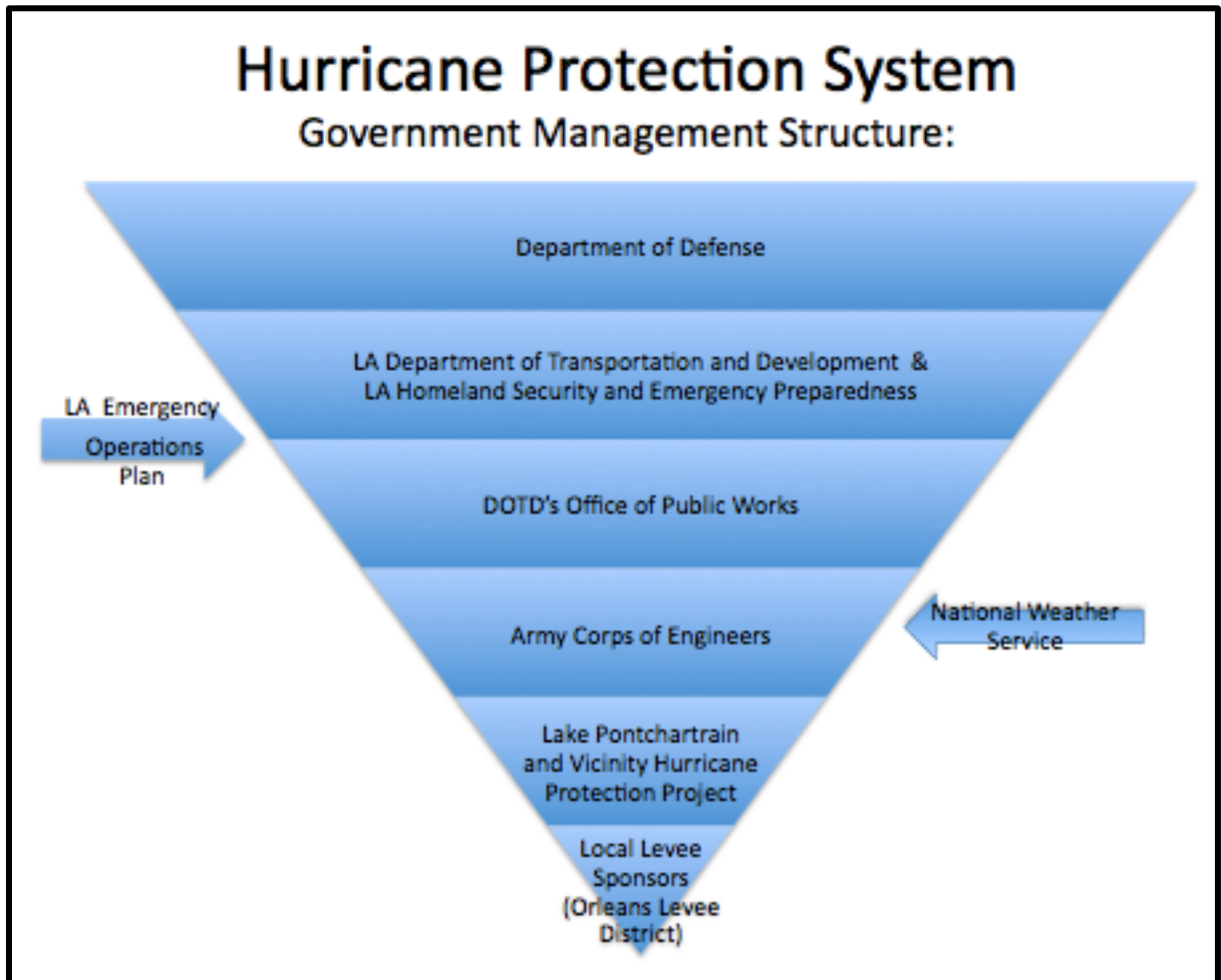
Before and after Hurricane Katrina, several local and national media outlets detailed how coastal land loss made hurricanes harsher and more destructive. The coverage before Hurricane Katrina was largely ignored because no hurricane had demonstrated the evidence to be true. National news stories after Hurricane Katrina occurred too long after the fact to capitalize on the tragedy and scale of the event in order to hold the public's attention. While local publications like the *Times-Picayune* covered the issue continuously and thematically, national media addressed it only intermittently and episodically. Most of the national media did not explain coastal erosion and preferred, instead, to focus on human-interest stories about the hardships locals faced.

Chapter 5: Government organization and communication structures

While the national media failed to inform the public of the exacerbating effects of the storm, poor government organization and communication techniques played a major role in inhibiting effective policy responses to Hurricane Katrina. Media practices are the main focus of this research, but we cannot ignore the inefficiency of the underlying government structures that made Katrina much worse than it would have been naturally.

Any large group of people trying to come to agreement about what tasks to pursue and how to accomplish them will realize quickly the value of managerial organization. Understanding a bit about most corporate management systems helps us draw correlations about how the vast U.S. government is managed. The traditional hierarchal management system was probably first outlined in the mid-1880s by a railroad superintendent trying to prevent eastbound and westbound trains that were sharing tracks from running into each other (Shirky, pg. 41, 2008).

Shirky said a small railroad could function with ad hoc management, but as the scale of the railroads grew, management problems also grew. The “org chart,” a diagram pioneered by David McCallum, proposed a solution to those management problems. McCallum wrote six principles for running a hierarchal organization, the most relevant to this research being to produce “such information, to be obtained through a system of daily reports and checks, that will not embarrass principal officers nor lessen their influence with their subordinates” (Shirky, pg. 42, 2008). Shirky said “the idea of limiting communications, so that they flow only from one layer of the hierarchy to the next, was part of the very design of the system at the dawn of managerial culture” (Shirky, pg. 42, 2008).



American government operates similarly to many large corporations that follow a complex organizational hierarchy like McCallum's. The levee system, for example, was divided into regional sectors operated under the Army Corps of Engineers, which was under the direction of the Department of Transportation and Development, which was overseen by the Department of Defense. In another hierarchical layer, Louisiana's Emergency Operations Plan delegated the responsibility of in-depth reviews of the flood control systems to the state Department of Transportation and Development. Additionally, governmental bodies like the National Weather Service provided critical information to each of these entities, although it was usually ignored, misunderstood or misused (Hurricane Katrina: A Nation Still Unprepared 2006).

Wetland erosion, like hurricane mitigation, is a complicated issue that involves multiple governmental and expert entities that often do not communicate well. An October 2010 report from America's Wetland Foundation said "governance structures and processes appeared to exacerbate already complex challenges in which lines of authority are not clear or organized for timely problem solving," (America's Wetland Foundation, pg. 4, 2010).

The report also said discussions of wetland problems were "complicated by the various lenses through which issues of deltaic sustainability are seen," (America's Wetland Foundation, pg. 4, 2010). For example, the scientific community might not be able to overcome communication difficulties to build consensus with the planning and engineering communities who would execute solutions to the problem. This idea is quite similar to Birkland's hypothesis that hurricanes are not effectively addressed because they involve so many different sectors of the government. America's Wetland Foundation also cites a lack of public understanding as a key component in driving political support for only short-term action instead of "comprehensive, systemic solutions that are necessary for widespread deltaic sustainability" (pg. 4). Better national media coverage could have addressed this lack of public understanding.

America's Wetland Foundation said the three primary obstacles to deltaic sustainability worldwide and in Louisiana are:

1. An uninformed public not educated about the risks, trade-offs, timeliness and realistic expectations for natural and man-made resources available to implement solutions.
2. The lack of comprehensive policy with coordinated solutions supported by political will to act urgently for deltaic sustainability.
3. Absence of a reliable, long-term funding mechanism that is not subject to political schedules, partisan, parochial or national divides (pg. 7).

The report said it is important for the public and leaders to understand the history, and costs and benefits of both action and inaction in the realm of wetland erosion. "Equally critical is sustained communication that provides access for an interdisciplinary and balanced forum of

ideas that may be beyond the rigors and temptations of the political process,” (America’s Wetland Foundation, pg. 6, 2010).

Evidence of this lacking government communication system was clear in other arenas of policy failure before, during and after Hurricane Katrina. FEMA prevented first-responders from entering New Orleans until they had coordinated their efforts with both local and state officials, greatly slowing the response process (Brookings Institution 2005). Both the secretary of the Department of Homeland Security secretary and the director of FEMA were not aware there were people taking refuge in the convention center, an unofficial shelter, until the Thursday after the hurricane (Brookings Institution 2005). The same obstacles to deltaic sustainability are obstacles to coordinated government responses and legislative actions that could save lives.

Chapter 6: Mass media coverage of complex issues

Mass media theories about agenda setting, priming and framing are important to understanding the role the media play in presenting information that the public can use to pressure the government into action. The potential focusing event theory nearly collapses without media coverage of events that can spark policy change (although the media's role in this process might change as the general public begins to use web tools like blogs, twitter and Facebook to express their discontent with government behavior). While a few expert bloggers might be able to explain individual policy failures extensively, the media are ultimately responsible for providing the public with a report card on government action concerning disaster mitigation and relief planning. But because of some occupational constraints, journalists often do not have the time or space to cover complicated engineering and environmental issues in an easily understandable format. Newspapers and broadcasters both tend to focus on event-based stories more than thematic coverage of urgent policy problems, both because the public is more interested in these stories and because they are easier to report. Additionally, news consumers are more comfortable with relatable personal stories and simple explanations than they are with detailed analyses of policy failures featuring expert advice about possible solutions.

“The criteria newspeople use in story selection relate primarily to audience appeal rather than to the political significance of stories, their educational value, their broad social purposes, or the reporter's own political views,” Graber said (pg. 84, 2010). Audience appeal and economic pressures influence news coverage. Newspapers and television news rely on advertising income, which is primarily determined by circulation and viewing habits. The news business model does not allow the media to focus on the stories that are good for the public and encourage healthy political debate, although this is probably the most important function of the news.

We must first understand the criteria the media use for choosing news stories in order to understand the weaknesses of the mass media model in covering complex issues in a way that gives them broad appeal. Graber said there are five major values that determine newsworthiness:

1. Stories must portray conditions that have a strong *impact* on readers or listeners.

Journalists often explain issues in terms of how they affect ordinary people. Economic issues like inflation can be difficult to understand if they aren't explained in ways that people relate to, such as how much money they have to spend on things they need.

2. *Violence, conflict, disaster and scandal* are newsworthy because they excite news consumers.

The old journalism adage, "if it bleeds, it leads" still thrives today. The "penny press" phenomenon showed the media that racy stories about crime and sex sell newspapers and are an important part of the news business model.

3. *Familiarity*: News is attractive if it "pertains to well-known people or involves familiar situations of concern to many."

This news value is the reason journalists try to associate personal stories with abstract occurrences like famine. People might care about mass famines in Africa, but they are unlikely to show interest in news stories about them unless they can relate to affected individuals.

4. *Proximity*: People are more interested in news that occurs near them.

People pay more attention to local rather than national news because this news is more likely to affect them directly. This value is key in understanding seemingly limited national coverage of the underlying factors that exacerbated Hurricane Katrina.

5. *Timely and novel news:* News that just occurred or that is out of the ordinary draws the attention of readers and viewers.

News can be novel either because it doesn't happen often or because people don't hear about it often.

The media use these criteria to determine which news best suits their business model.

Complex scientific stories, unfortunately, often do not fall into any of these categories.

Therefore, they are often overlooked for stories that have broad appeal and draw a greater audience. Additionally, Larry Burris (1987) found that as the complexity of a story increases, the audience's ability to remember the story decreases. So those few stories that do cover the complex issues are often quickly forgotten and do not enter public discourse.

A primary function of the mass media, for better or worse, is to set the political agenda by giving differential attention to specific issues. The media influence which issues people care about and discuss by covering some and ignoring others. Iyengar and McGrady (2007) go as far as to say that "most political issues can be experienced only through exposure to the news" (pg. 215). Because Hurricane Katrina was such a large event, many people experienced the disaster's fallout firsthand. But technical issues like levee breaching and overtopping caused by poor structural engineering and coastal erosion caused by man-made dredging (executed with little regard to the environment) cannot be experienced personally. These issues fall into Graber's news criteria when a disaster occurs, but they are scarcely covered before, or for very long after, a disaster. "Despite the ascendancy of social responsibility in journalism, the constraints of news production still force the media to neglect persistent social problems," Graber said (pg. 99).

Iyengar (1991) explains framing as either "episodic" or "thematic." Episodic coverage of hurricanes and disaster policy failures is relatively common, but thematic coverage occurs

infrequently because it is often impersonal. David Jackson (2002) said “episodic framing encourages viewers to hold individuals responsible for problems, while thematic framing encourages viewers to hold social and political institutions responsible” (pg. 13). For this reason, thematic framing of policy failures is important for uncovering the underlying problems with government delegation of responsibilities and poor communication strategies that exacerbate events like Hurricane Katrina.

The media set the public agenda by focusing on the aspects of a news story that they think are important to many people. Graber said “agenda building often occurs around a precipitating event” (pg.143). She said the beating of an African American driver by Los Angeles police officers opened the door for the media to “dwell at length on the issues of police brutality and racism and turn them into a major focus of public policy” (pg. 143). Similarly, the graphic photos of tortured prisoners at Iraq’s Abu Ghraib prison that American media published in 2004 “created a political firestorm that brought major investigations, policy changes, and heated nationwide dialogue about torture” (Graber, pg. 143, 2010). The media can easily use examples like these to demonstrate disturbing societal inequities and little-known unsavory public policies that, when revealed, enflame public debate. But how should journalists present the important issues that can’t be explained on a personal, human-interest level? How can the media match the faces and names of those killed by Hurricane Katrina and the policy failures associated with it to engineering mistakes and poor government oversight?

There is at least one example of science reporting that seems to have overcome the typical occupational constraints on the time, space and effort journalists can allot to each story. Researchers tracked coverage of the global warming controversy from 1985 to 1992 in evening network newscasts and in six print publications: *The New York Times*, *The Washington Post*, *The*

Wall Street Journal, *Time*, *Newsweek* and *U.S. News and World Report*. Between 1985 and 1987, there were only 25 stories about global warming in all of these news sources combined. Graber (2010) said coverage soared in 1989 and 1990 when the first Bush administration tried to play down the seriousness of the issue. “By a margin of nearly nine to one, news coverage suggested that global warming was indeed a major problem that required preventative government action through the world,” Graber said (pg. 146). News media took their cues from the scientific community and focused on specific solutions such as limiting carbon dioxide emissions, stopping or reversing deforestation and conserving energy. In this instance, journalists were able to cover the issue because the scientific community introduced it back to the political agenda and renewed its timeliness and relevance.

The Bush administration’s stubborn denial of human-induced global warming made for an unfriendly climate for debate, but conditions for reporting on the issue improved drastically when the Obama administration made global warming a key concern. This example leads us to believe that the scientific community and the political elite play an important role in determining how and when environmental news is presented.

Chapter 7: Newspaper coverage of Hurricane Katrina

As evidence for my hypothesis that the mass media did not adequately explain complex scientific issues that exacerbated Hurricane Katrina's effects, I researched coverage of coastal erosion in the two print publications I expected to cover these issues most thoroughly: *The New York Times* and *The Times-Picayune* in New Orleans. *The New York Times* is known for its interpretive and analytical scientific news, and *The Times-Picayune* has a vested interest in covering the specific failures of the hurricane protection system and the pre-existing environmental factors that influenced the outcome of Katrina. *The Times-Picayune's* readers expect thorough and thematic reporting on these issues because they affect their livelihood.

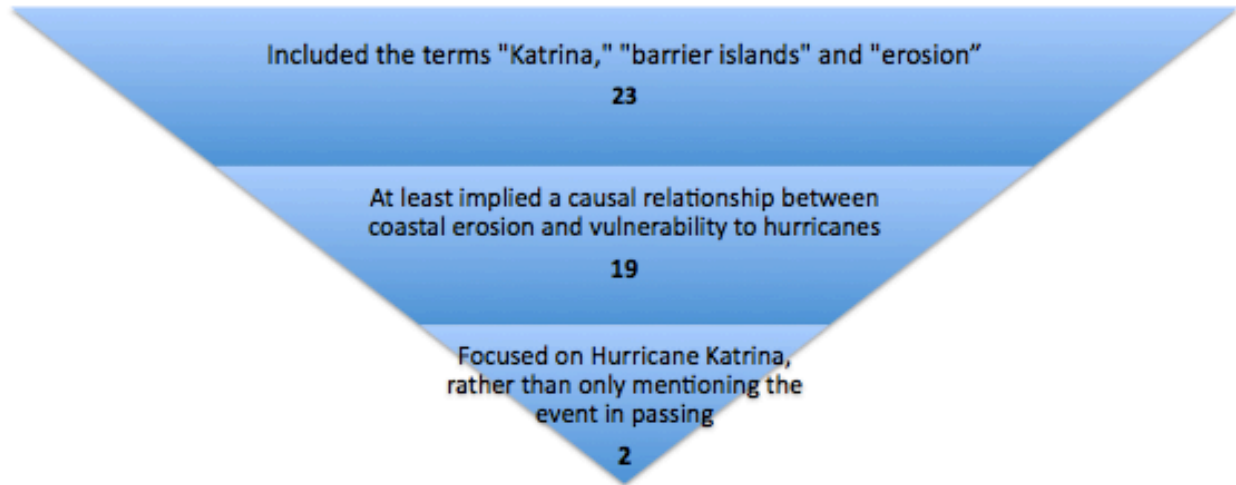
Coastal erosion in the national news

To explain how coastal erosion in Louisiana exacerbated the effects of Hurricane Katrina, a writer would most likely need to use the terms "Katrina," "barrier islands," and "erosion." *The New York Times'* archive holds only 23 articles published between August 23, 2005 and January 26, 2011 that include these terms. Only two of those articles (both opinion pieces) focused on explaining how coastal erosion exacerbated the effects of Hurricane Katrina. Both editorials were published just after the hurricane in September 2005, and neither of them cited interviews with coastal erosion experts or discussed potential solutions.

Five of the six 2010 articles that included these terms were focused on the BP oil spill, which supports the idea that the renewed relevance of an issue is a requisite to mass media coverage. The sixth article only discussed Hurricane Katrina in passing. Additionally, almost all of the 19 pieces that at least implied a causal relationship between coastal erosion and hurricane vulnerability did so, seemingly as an afterthought, near the end of the story.

New York Times Breakdown

***New York Times* archive entries between August, 2005 and January, 2011**



To thoroughly explain the causes of coastal erosion, a writer would probably also need to include the word “dredging.” *The New York Times*’ archives included five articles containing the terms “Katrina,” “erosion,” “barrier islands,” and “dredging.” None of the articles focused specifically on Hurricane Katrina, but the one writer who came closest to explaining how oil companies dredged canals and contributed to coastal erosion was, not surprisingly, from Bayou Lafourche, Louisiana. That piece—called “Our Life, Between Sea and Oil”—was published on July 10, 2010 by Martha Serpas, a writer who grew up 30 miles from Grand Isle where hurricanes are routine and disappearing land is a fact of life. Serpas’ editorial never would have been published if the second major disaster in the Gulf Coast in this decade, the BP oil spill, had not happened. This further supports my hypothesis that public understanding of and attention to coastal erosion is lacking because event-driven, episodic news occurs more often than thematic coverage of issues.

The methods of this research are not, by any means, meant to depict all news coverage of scientific issues that exacerbated Hurricane Katrina or to paint a picture of the overall state of science reporting on issues that are not event-based. However, the results are startling, and even worse than I suspected. If the national news source that seemed most likely to succeed in this endeavor exhibited such dismal coverage, it stands to reason that other national publications were similarly disappointing.

Local coverage

The results for this same search in the archives of *The Times-Picayune* put *The New York Times* to shame. In the history of its archives, *The Times-Picayune* published about 300 articles containing the terms “barrier islands,” “erosion,” and “Katrina.” Many of those stories include in-depth explanations about how erosion exacerbated the effects of Hurricane Katrina, as if *Times-Picayune* editors jumped at every opportunity to further promote understanding of the issue. Additionally, although the newspaper had written about coastal land loss repeatedly, its reporters often explained the connection again each time the topic was addressed.

Media Comparison	
<i>New York Times</i>	<i>Times-Picayune</i>
<ul style="list-style-type: none">• 23 Stories• Minimal, disjointed and infrequent coverage	<ul style="list-style-type: none">• 300+ Stories• In-depth, frequent explanations of the causal relationship between coastal erosion and the exacerbation of Katrina and possible future storms

Extensive coverage of coastal land loss fits perfectly into *The Times-Picayune's* business model because *Times-Picayune* readers remain interested in any and all news concerning Hurricane Katrina. The local newspaper can afford to spend resources repeatedly covering this complex issue without sacrificing readership. Local public interest in hurricanes is further evident in *The Times-Picayune's* "Hurricane News and Storm Tracking" page. Covering hurricanes is not just a civic duty for *The Times-Picayune*; it's also very conveniently a good business plan. In contrast, *The New York Times* is not afforded the same flexibility because only a small portion of its audience was directly or even indirectly affected by the storm.

Conclusion:

Previous research into potential focusing events concluded they can serve, through the media, as the beginning of a longer-term political process (Birkland 1997). One study found news organizations treat events like “jumping-off points for thematic exploration of social issues” (Lawrence, pg. 97, 2001). While this seems true, the media still decide how to define these issues and which thematic problems to explore. In the case of Hurricane Katrina, initial coverage focused on the human aspects of the destruction (i.e. the lives lost, the families separated and the suffering of displaced residents). When the national news media did report on exacerbating factors of the hurricane, their coverage was too little too late.

Issues like coastal erosion seem clinical and disconnected from consequences if they are not connected to an event like Hurricane Katrina. As a focusing event, Hurricane Katrina did start a dialogue about many policy problems and it did give the public ammunition with which to pressure government officials into action. However, the national news media did not connect the issue of coastal land loss with the tragedy of Hurricane Katrina while it was still fresh in the public’s mind. When the national news media did try to establish this connection, they did so only intermittently. To make matters worse, Burriss (1997) found that as the complexity of a story increases, the audience’s ability to recall the story declines (Jackson 2002). Therefore, a complex issue like coastal land loss would require even more repetition in the media for the audience to latch on to the idea. As Tidwell said in *The Ravaging Tide*, many news outlets discussed coastal erosion before Hurricane Katrina, but none of them did so consistently. Sporadic coverage of an issue does not emphasize its importance to readers.

The national news media could have served to mobilize a national audience to pressure politicians to make policies to combat coastal erosion, but they failed to do so because they did

not cover the issue frequently or thoroughly enough and they did not connect the environmental causes of the disaster with its devastating effects. For example, *The New York Times* framed exacerbating factors episodically, while *The Times-Picayune* framed them thematically. Episodic framing of issues makes it more difficult for citizens to locate the responsible party (Iyengar 1991, as cited in Jackson 2002). Additionally, Jackson said episodic framing encourages the viewers to hold individuals, rather than social and political institutions, responsible for problems. For this reason, thematic framing of policy failures is important for finding and enacting solutions to problems like coastal land loss and the poor government communication structures that made Katrina's damage worse. Just holding an individual responsible for a singular action (similar to the finger-pointing that occurred after Katrina) does not open the door to explore failures by social and political institutions that can be prevented in the future. If citizens cannot locate the responsible entity, they cannot determine what went wrong and pressure policymakers to work to prevent these occurrences. The national news audience did not pressure policymakers to prevent coastal land loss because the media focused on other issues, such as displaced residents.

This lacking coverage of more complicated, underlying issues might have occurred because the media chose convenient, accessible issues to define as the main problems revealed by Katrina. "Major problem-defining events are those that offer journalists plenty of storytelling material that they believe will appeal to their audiences, events that represent important developments in society or violations of shared societal norms and expectations, and events which engender political conflict or promise political impact," Lawrence said (pg. 98). Hurricane Katrina offered so many angles that met these criteria that many media outlets ignored the issues

that were more difficult to explain, at least until a later date when they had less dramatic effect on readers.

“It is not uncommon in the immediate aftermath of a dramatic accidental event for multiple problem definitions to proliferate and then, over time, to narrow down to a few,” Lawrence said (pg. 106). Two factors are particularly important in determining the prominence and longevity of competing problem definitions: the amount of “new” news certain problems offer and how readily problems are institutionalized (Lawrence, pgs. 105-06, 2001). Other problems, such as finding homes for New Orleans residents and sifting through insurance claims, were more prominent in the news because Congress was responding to those issues and thus renewing their news value. These kinds of problems have a clearly defined place in the policy realm, so they shifted from event-driven problems to institutionally driven problems. Coastal erosion was not high on the Congressional agenda and therefore did not appear as often in the media. There were no new developments, in Congress or otherwise, to make coastal land loss again a timely and relevant story.

But timeliness and relevance were not the only news values at play in this situation. Problem definition events like Hurricane Katrina are, by their nature, dramatic. These events lend themselves more readily to other, simpler angles, such as the devastated, homeless victims or high-conflict issues like looting and insurance fraud. In order to stay profitable, the media must cover the news that interests their readers and uses the least amount of resources.

While economic pressures were a big influence in the amount and content of national coverage, other journalistic standards probably also came into play. For example, many journalists are hesitant to delve into issues that are very difficult to understand, especially when they know their editors will not, because of necessity or judgment, allot them the space they need

to explain them well. The mass media business model undoubtedly has a substantial influence on what events are covered. No national news outlet could survive without covering events as dramatic as Hurricane Katrina. But if the media really were interested only in selling newspapers, they probably would stop spending so much time covering Congress and start dedicating more resources to following celebrities. In many instances, national news media tried to explain how coastal erosion was leading to harsher hurricanes. They just were not able to connect the dots for enough news consumers to understand the complexity and significance of the situation and pressure their government representatives to address it adequately.

Most journalists did not pursue a career in mass communication to make money but to try to make the world a better place by facilitating understanding about it. News values like truth and objectivity are just as important to many journalists as timeliness, relevance and conflict. In this spirit, the influential American publisher Henry Luce once said he became a journalist “to come as close as possible to the heart of the world.” This institutional motivation to seek out the truth told journalists to cover the government failures surrounding Katrina in general, but business motivations restricted which specific problems they could readily and effectively address.

If a highly regarded, award-winning newspaper like *The New York Times* failed in this instance to fulfill its main democratic role to oversee government, it was likely the result of many daunting obstacles. *The New York Times* did not choose to ignore this issue because it was not profitable; many forces, economic and otherwise, silently pressured it into lackluster coverage. The media had all the pieces it needed to use Hurricane Katrina as a focusing event for policy change, and yet those pieces did not come together. Lacking consistent and thorough national coverage of this issue serves as a cautionary tale about the American public’s

expectations of the media. Perhaps society's somewhat simplistic definition of "media obligation" is not nuanced enough to take all of these factors into account. Maybe the media cannot cover it all, and if this is true it might be time for Americans to reevaluate long-established norms about the mass media's role in democracy.

Works Cited

- Baumgartner, Frank R., and Bryan D. Jones. *Agendas and Instability in American Politics*. Chicago [u.a.: Univ. of Chicago, 1993. Print.
- Bergal, Jenni. *City Adrift: New Orleans before and after Katrina*. Baton Rouge: Louisiana State UP, 2007. Print.
- Birkland, Thomas A. *After Disaster: Agenda Setting, Public Policy, and Focusing Events*. Washington, DC: Georgetown UP, 1997. Print.
- Bourne, Joel K. "A Perilous Future." *National Geographic* Aug. 2007: 32-66. Print.
- Burris, Larry L. "How Anchors, Reporters and Newsmakers Affect Recall and Evaluation of Stories." *Journalism Quarterly* 64.Sum-Fall 1987 (1987): 514-19. Print.
- "Bush Meets With Disaster Relief Task Force in D.C. - Politics | Republican Party | Democratic Party | Political Spectrum - FOXNews.com." *FoxNews.com - Breaking News | Latest News | Current News*. 01 Sept. 2005. Web. 24 Mar. 2011. <<http://www.foxnews.com/story/0,2933,167908,00.html>>.
- "Can New Orleans' Revamped Levee System Withstand Next Storm? | PBS NewsHour | Aug. 26, 2010 | PBS." *PBS Newshour*. *PBS: Public Broadcasting Service*. 26 Aug. 2010. Web. 24 Mar. 2011. <http://www.pbs.org/newshour/bb/weather/july-dec10/nolalevee_08-26.html>. Transcript.
- CBS's Katie Couric and Anthony Mason, and ABC's David Muir, Melody Hobson and Bianna Golodryga on Recession*. Business and Media Institute. Web. 20 Mar. 2011. <<http://www.eyeblast.tv/public/checker.aspx?v=Z4Vrnzuz>>.
- Delozier, Elana. "Hurricane Katrina Timeline." The Brookings Institution. Web. 2 Mar. 2011. <www.brookings.edu/fp/projects/homeland/katrinatimeline.pdf>.

Deltas2010 World Delta Dialogues Report of Findings. Rep. America's Wetland Foundation, 1 Mar. 2011. Web. 2 Mar. 2011. <<http://www.deltas2010.com/>>.

Determination of the December 2007 Peak in Economic Activity. Rep. National Bureau of Economic Research. Web. 20 Mar. 2011. <<http://www.nber.org/cycles/dec2008.html>>.

Downs, Anthony. *Up and down with Ecology the "issue-attention Cycle"* S.l.: S.n., 1972. Print.

Drye, Willie. "Hurricane Katrina Pulls Its Punches in New Orleans." *National Geographic*. 29 Aug. 2005. Web. 2 Mar. 2011. <http://news.nationalgeographic.com/news/2005/08/0829_050829_hurricane.html>.

Elder, Charles D., and Roger W. Cobb. *The Political Uses of Symbols*. New York: Longman, 1983. Print.

Felsher, John. "A Football Field Disappears from the Louisiana Coast Every Hour." *Examiner*. 30 Apr. 2010. Web. 2 Mar. 2011. <<http://www.examiner.com/fishing-in-national/a-football-field-disappears-from-the-louisiana-coast-every-hour>>.

"The First Year After Hurricane Katrina: What the Federal Government Did." *Department of Homeland Security*. Web. 20 Mar. 2011. <http://www.dhs.gov/xfoia/archives/gc_1157649340100.shtm>.

Gilgoff, Dan. "Big Blow in the Big Easy." *US News & World Report*. US News & World Report, 10 July 2005. Web. 24 Mar. 2011. <<http://www.usnews.com/usnews/news/articles/050718/18neworleans.htm>>.

Graber, Doris A. *Mass Media and American Politics*. Washington, DC: CQ, 2010. Print.

"Green Light for New Orleans Brutality: An Editorial." *Nola.com*. The Times Picayune, 26 Aug. 2010. Web. 2 Mar. 2011. <http://www.nola.com/katrina/index.ssf/2010/08/green_light_for_new_orleans_po.html>.

Horne, Jed. *Breach of Faith: Hurricane Katrina and the near Death of a Great American City*.

New York: Random House, 2006. Print.

H.R. 1495, 110 Cong. (2008) (enacted). Print.

Iyengar, Shanto, and Jennifer McGrady. *Media Politics: a Citizen's Guide*. New York: W.W.

Norton, 2007. Print.

Iyengar, Shanto. *Is Anyone Responsible?: How Television Frames Political Issues*. Chicago:

University of Chicago, 1991. Print.

Jackson, David J. *Entertainment & Politics: the Influence of Pop Culture on Young Adult*

Political Socialization. New York: P. Lang, 2002. Print.

Jackson, David J. *Entertainment and Politics: the Influence of Pop Culture on Young Adult*

Political Socialization. New York: Peter Lang, 2009. Print.

Kingdon, John W. *Agendas, Alternatives, and Public Policies*. New York: Longman, 1995. Print.

Knabb, Richard D., and Daniel P. Brown. *Tropical Cyclone Report: Hurricane Katrina*. Rep.

National Hurricane Center, 2005. Print.

Lawrence, Regina G. "Chapter 6: Defining Events: Problem Definition in the Media Arena."

Politics, Discourse, and American Society: New Agendas. Ed. Roderick P. Hart. Lanham,

MD: Rowman & Littlefield, 2001. 91-110. Print.

Obama, Barack. "REMARKS BY THE PRESIDENT ON 21ST CENTURY FINANCIAL

REGULATORY REFORM." Address. White House, Washington, D.C. *The White*

House. Office of the Press Secretary. Web. 20 Mar. 2011.

<http://www.whitehouse.gov/the_press_office/Remarks-of-the-President-on-Regulatory-Reform/>.

- Schwartz, John, and Christopher Drew. "Louisiana's Levee Inquiry Faults Army Corps." *The New York Times*. 1 Dec. 2005. Web. 2 Mar. 2011.
<<http://www.nytimes.com/2005/12/01/national/nationalspecial/01levees.html>>.
- Sturgis, Sue. "ISS - Five Years after Katrina, Army Corps Still Dragging Its Feet on Reforms." *Institute for Southern Studies*. 19 Aug. 2010. Web. 20 Mar. 2011.
<<http://www.southernstudies.org/2010/08/five-years-after-katrina-army-corps-still-dragging-its-feet-on-reforms.html>>.
- Sylvester, Judith L. *The Media and Hurricanes Katrina and Rita: Lost and Found*. New York: Palgrave Macmillan, 2008. Print.
- Tidwell, Mike. *Bayou Farewell: the Rich Life and Tragic Death of Louisiana's Cajun Coast*. New York: Vintage, 2004. Print.
- Tidwell, Mike. *The Ravaging Tide: Strange Weather, Future Katrinas, and the Coming Death of America's Coastal Cities*. New York: Free, 2006. Print.
- United States. Cong. House. *Budget Report: H.R. 5140 [110th]: Economic Stimulus*. 110 Cong. H. Rept. 5140. 11 Feb. 2008. Web. 20 Mar. 2011.
<<http://www.govtrack.us/congress/billreport.xpd?bill=h110-5140&type=cbo>>.
- United States. Cong. Senate. Homeland Security and Governmental Affairs. *Hurricane Katrina: A Nation Still Unprepared*. S. Rept. Washington, DC: United States Senate, 2006. Print.
- Van, Heerden Ivor LL., and Mike Bryan. *The Storm: What Went Wrong and Why during Hurricane Katrina : the inside Story from One Louisiana Scientist*. New York, NY: Penguin, 2006. Print. Van Heerden, Ivor. *Team Louisiana: The Failure of the New Orleans Levee System during Hurricane Katrina*. Rep. Baton Rouge: Louisiana Department of Transportation and Development, 2006. Print.

Williams, Jack. "Hurricane Scale Invented to Communicate Storm Danger." *USA Today*. 17 May 2005. Web. 20 Mar. 2011. <<http://www.usatoday.com/weather/hurricane/whscale.htm>>.