Quick Response Report #117 HURRICANE GEORGES: THE EXPERIENCE OF THE MEDIA AND EMERGENCY MANAGEMENT ON THE MISSISSIPPI GULF COAST

Henry W. Fischer III
Department of Sociology
Millersville University of Pennsylvania
Millersville, Pennsylvania 17551

1999

HURRICANE GEORGES:

THE EXPERIENCE OF THE MEDIA AND EMERGENCY MANAGEMENT ON THE MISSISSIPPI GULF COAST

ACKNOWLEDGEMENTS

ABSTRACT

A content analysis was conducted on news stories published in the print media and broadcast on local and network television during the pre-impact, impact, and post-impact periods of Hurricane Georges. Media and emergency management personnel were interviewed. The research focus was to determine if the media reporting had changed in any way since a similar study was conducted ten years earlier (Hurricane Gilbert). The researchers found most of the reporting content and patterns to be very similar to the Gilbert findings. Reporting content was largely accurate, except for some tendency to dwell on deviance such as looting and price gouging (part of the disaster mythology). Local reporting patterns varied from network broadcasting and national print media in that the local media sought to serve the local population by disseminating mitigation and response information. On the other hand, national and network reporters constructed news stories that conformed to their expectations of what they perceived normally occurs. A notable

exception, however, was the reporting of one NBC news reporter. Robert Hager replaced the entertainment norm with an educational norm. His reporting could serve as a model of how the media can effectively serve the public.

Communities that implemented an effective public information plan, which anticipated media and community needs, were much more effective in maintaining a good relationship between the media and emergency management than those which did not have or effectively implement such a plan. More importantly, communities with effective public information plans were far more effective in disseminating mitigation and response information to their constituents than the other communities. The former communities received praise from local officials and citizens, while the later received sever criticism.

INTRODUCTION

Why does belief in the disaster mythology continue to plague us? Regardless of research findings (for example, see Fischer, 1998) many still believe panic flight, martial law, psychological dependence, looting and other forms of deviant behavior, price gouging, disaster shock, contagion, and the mass sheltering of a majority of the would-be victims are all symptomatic of a community's disaster response. Mass media has been found to be a prime reason for the continued perpetuation of the disaster mythology among laypersons and emergency personnel. A quick response grant supported work by this researcher ten years ago resulting in a case study of how the media presented the world with a picture of the community response to Hurricane Gilbert. While most national and local, print and broadcast reporters were found to subscribe to the disaster mythology, their reporting was observed to vary nevertheless. Why? The Gilbert study findings suggested that the local print and broadcast media were more likely to share in the altruistic role of the victim, resulting in a desire to help their communities successfully respond to and recover from the hurricane. As a result, the local media

tended to essentially turned news management over to local officials-reporting what local officials stated with respect to community needs and response. If the local officials were accurate, the reporting was accurate. On the other hand, national reporters were found to be guided by a different norm; they appeared to seek to provide their audience (who were not co-victims) with a picture or story of what typically occurs in a hurricane. As such, they created a scenario based upon their *perception* of reality. These reporters maintained control over news management and, as a result, created a story line reinforcing the disaster mythology.

Research Focus

A quick response grant supported work by this researcher to develop a case study seeking to determine the extent to which the findings of ten years ago still inform the parameters of local and national reporting. The focus of the current study is to determine the extent to which the media still perpetuates the disaster mythology. In essence, the goal is to determine what has changed during the last ten years. We will compare the findings of the Hurricane Gilbert study, conducted in 1989, with those of Hurricane Georges. Has accuracy improved? Is a difference observed between the reporting accuracy and organizational style of local versus national print and broadcast media? If there is a difference, why is this the case? To what extent does a normal time relationship between the press and emergency management officials influence disaster time reporting? To what extent does an implemented plan to disseminate information to the press during disaster time impact on reporting accuracy? These are the primary questions the current study seeks to address.

The Life Cycle of Hurricane Georges

Hurricane Georges' path through the Caribbean resulted in severe damage to Puerto Rico and other islands. After raging across the Florida Keys, Georges entered the Gulf and proceeded to take aim at the Gulf coast threatening the land area from Louisiana to the Florida panhandle.

A level two hurricane, Georges was threatening to impact New Orleans and to do so at high tide. Being six feet below sea level even a category two hurricane could be expected to have an extremely negative affect on New Orleans. At the last minute Georges made a northeasterly turn resulting in the eye crossing the mainland in the Pascagoula, Mississippi area. While hurricane force winds were felt from New Orleans to Panama City, Florida, the most severe sustained wind and wind gusts were reserved for the Mississippi Gulf coast. The eye crossed the coast at approximately 3:40 a.m. on Monday, September 28, 1998--but it did not continue on its track. Instead Georges hovered above the Mississippi coast for approximately eight hours. The storm surge reportedly reached sixteen feet (even Camille which was a category four storm had a significant lower storm surge of six feet) as it announced Georges' arrival. The wind and rain, twenty-five inches of rain reportedly fell in some areas within twenty-four hours, were relentless. After Georges finally released its gripe on the Mississippi coast, it proceeded on a northeasterly track, quickly losing strength, but continuing to drop a large amount of rain. Flooding was particularly a problem east of Gulfport, Mississippi, through Pascagoula, into Alabama, e.g., Mobile, as well as the Florida panhandle and parts of Georgia.

DISASTER MYTHOLOGY & THE MEDIA: PREVIOUS KNOWLEDGE

The Behavioral Response to Disaster

Popular Culture Perception, Disaster Mythology, & Common Behavioral Response

Would you be afraid to arrive on the scene immediately after a disaster has struck an area? What is your image of the behavioral response of the survivors and those who come to their aid? Most people in the United States believe in what disaster researchers have described as a *disaster mythology* (Wenger, et al, 1975; Fischer, 1998). Most of us assume that

individuals cease to act in a predictable, orderly fashion, i.e., that the norms governing our behavior collapse into Durkheim's anomie. They are expected to flee in panic, suffer from psychological dependency and disaster shock. It is often believed that evacuation of these people must not be called too soon for fear of causing massive flight behavior. It is believed that shelters overflow beyond capacity with organizers unable to deal with the mob mentality. Both survivors and those converging to the scene are believed to be driven by base, depraved instincts. These individuals are commonly perceived as likely to loot property, price gouge one another, and generally behave in other selfish ways--most of which are imagined to spread from individual to individual in a contagious fashion. [For a sample of the literature outlining the disaster mythology see Quarantelli and Dynes, 1972; Wenger, et al, 1975; Scanlon, 1978; Wenger, et al, 1980; Bryan, 1982; Aga Khan, 1983; Stallings, 1984; 1985; Drabek, 1986; Wenger and Friedman, 1986; Johnson, 1987; Rubin and Palm, 1987; Fischer, 1988(a), 1988(b), and 1989; Fischer and Trowbridge, 1992; Fischer, 1998.]

Panic Flight. Average citizens, media personnel and disaster responders believe that when a disaster occurs [potential] victims will panic and engage in any behavior deemed necessary at the moment to facilitate their escape. Panic flight is viewed as a natural outcome of the intense fear experienced by [potential] victims, i.e., the intense fear automatically results in irrational flight, the running in any direction without thought given to a rational escape route. Evacuations are sometimes delayed, until it is deemed absolutely necessary, because officials do not want to cause an unnecessary panic. When the nuclear incident began at Three Mile Island, near Harrisburg, Pennsylvania in 1979, certain emergency personnel and political leaders cautioned nearby residents that there was no need to panic. When an evacuation was considered and then recommended for pregnant women and preschool children, officials suggested to their citizens that the voluntary evacuation be done in an orderly manner--that there was, once again, no need to panic. The Presidential Commission on TMI later learned that there had been some hesitation to call for any evacuation as they feared the behavioral response problems which they believed would ensue.

The research literature (Drabek, 1968; Quarantelli, 1981) has established that individuals do not attempt to flee when there is not a perceived avenue for escape. When there is a perceived avenue of escape, and when the opportunity to use it is seen as diminishing, there is a rational tendency to avail oneself of the opportunity to use it. This author lived within twenty miles of TMI when the 1979 incident occurred. When he was concerned about the impact of TMI on his young children, his family packed and left the area. Those leaving the area were not mindlessly fleeing in fear, they made a rational decision to be prudent and seek a safer location. This is normative, orderly behavior. It is not panic flight.

Looting. Looting is perhaps the most expected behavioral response to disaster. Both print and broadcast media personnel report on the alleged looting incidents, on the steps being taken to prevent it, and, alternately, on how unusual it was for the community in question to not be preyed upon by looters. The National Guard is usually activated ostensibly to protect against looting, in addition to performing other tasks. Pass systems are typically developed to keep individuals from entering the stricken area in order to keep looters out. What often occurs (Fischer, Schaeffer & Trowbridge, 1992) is victims are also prevented (or at least feel harassed) from returning to their homes to quickly save what property they can.

Many people refuse to evacuate because they fear their property will be stolen. They often arm themselves and threaten to shoot any unknown person entering their property. Some drown as a hurricane's storm surge impacts their home. During Hurricane Gilbert (Fischer, 1989), one city manager took very public precautions to prevent looting. Even though he knew that looting rarely occurs, he took such precautions primarily to convince citizens that it was safe to evacuate.

Price Gouging. When Fischer and Martin (Fischer, 1989) were in Texas during Hurricane Gilbert, they were watching a local evening news broadcast which reported that a couple of local merchants had been arrested for charging an exorbitant price for the plywood that residents needed to protect their windows during the pending hurricane. The researchers immediately telephoned the city police and asked how many

had been arrested for price gouging. The response: "none." The broadcast had correctly reported earlier that the local city council had passed an ordinance that day to protect against price gouging. The broadcast media focused a fair amount of its hurricane coverage on this kind of expected deviant behavior. Citizens believe it commonly occurs, media personnel report it, further reinforcing the perception, and local leaders take steps to prevent and respond to it. It rarely occurs, however. When it does, it tends to be done by outsiders who may converge to the area. Local citizens and especially local merchants rarely exhibit such behavior during a disaster event.

Contagion. It is frequently believed that those who converge to the disaster scene, while they may not arrive with malice in their hearts, may join in the looting and price gouging as the deviance is believed to spread through the crowd like a contagious disease. People are believed to be caught up in the selfish frenzy of the moment, losing control, joining the mob as LeBon (1895, see Fischer 1998) had once described the emergence of collective behavior.

Martial Law. It has frequently been reported and expected that martial law is commonly declared in an effort to restore or maintain order in the aftermath of a disaster. The expected deviant behavior is viewed as rendering such a radical response as necessary and understandable. In fact, martial law has been declared *only once* in the United States in response to a disaster event.

Psychological Dependency. The perceived scene of the disaster area is usually one in which victims are too "out of it" to know what to do, they are often portrayed as being in need of direction. It is commonly believed that survivors are incapable of functioning at all after their experience (Fischer, 1988). For example, it is believed that residents must either be organized by outsiders in order to begin the body search, assessments of damage, assisting the injured, and beginning the cleanup. Actually, the survivors have usually been doing all of the above quite well before the emergency organizations arrive and take over. Some often feel resentful when these organizations take the credit for helping all these alleged psychologically dependent people who could do nothing for themselves (Quarantelli, 1976).

Disaster Shock. In conjunction with psychological dependency, survivors are also often perceived as being in a state of shock as a result of their experience. "Friends of a friend" of a victim often report that the survivor was so incapacitated that he sat on "the remains of his front porch for days, garden hose in hand, ready to wash the mud from the flood away, but was unable to move" (Fischer, 1988). Fischer also found other third person reports have claimed that survivors spent hours walking essentially in circles not knowing where they were, what happened, or what to do. Reporters often (mis)interpret the body language of those they observe at a disaster site. Some survivors may appear to be in shock, while they are actually exhausted and, therefore, are resting.

Evacuation Behavior. Ask a potential evacuee if he is concerned about evacuating from a city when the forecast is for a hurricane to impact the area and the likely response is:

Yes I am concerned, I don't want to join all those crazies as they flee, they'll crowd and push each other off the roads trying to escape the path of the storm . . . why, they might even pack a gun, and worse yet, use it! (Fischer, 1989)

Once again, deviant behavior is assumed. This stereotype has emerged in American society which permeates virtually all levels of public and private life. Average citizens believe it, media personnel believe it, screen writers and movie directors believe it, government officials and even many emergency preparedness personnel believe it . . . and worse, prepare for it as if it were reality. Hollywood versions of disasters typically portray a version of the above reinforcing this misperception for all who view their work (Quarantelli, 1972).

Shelter Use. Along with the belief that citizens flee an area when told to do so, it is commonly assumed that when they do leave they go to the designated public shelters. It is further assumed that the shelters are, therefore, overcrowded with the thousands of evacuees. Some shelters are fully utilized, but many, perhaps most, go under-used. Emergency planners who are aware of this tendency develop shelter utilization plans that open shelters on an "as needed basis," i.e., when the first shelter is

filling, they activate a second, and so forth. This is the pattern that Fischer observed in Texas during Hurricane Gilbert.

Death, Injury & Damage Estimates. When the Loma Prieta (San Francisco) earthquake occurred during the 1989 World Series, the first published death count was 272. This figure was broadcast and printed throughout the United States, usually as the lead story or headline. Approximately two weeks later when the final official death count was determined it did not appear on most of the evening news programs. Some newspapers did report it, but the brief stories usually were found deep inside the paper. The final, official death count was 67. The pattern of overestimating is typical. While there are those occasions, e.g., Hurricane Andrew, where underestimates occur, the more common pattern is for death, injury and damage estimates to be dramatically revised downward some weeks after the event. In all fairness, it is difficult to get accurate information. Rumor affects the count. Sometimes the same people are counted two or more times. There is, of course, an advantage to having high property damage estimates in that the site is more likely to be declared a federal disaster area resulting in federal aid or low-cost loans for rebuilding.

The disaster mythology includes a belief in looting, price gouging, panic flight, contagious spread of deviant selfish behavior, the necessity of martial law, psychological dependency and disaster shock. Shelters are seen as overused and evacuations are seen as likely to contribute to panic flight. It is also assumed that the death, injury and damage estimates are essentially accurate. The research literature has established that these beliefs are largely myth, thus they are collectively characterized as the *disaster mythology*. The Federal Emergency Management Agency (FEMA), disaster researchers, and well trained emergency personnel know the mythology is something that they must be aware of in order to anticipate the public's actual behavioral response, e.g., hesitancy to evacuate due to fear that their property will be looted. Well designed disaster plans attempt to counter the public's belief in the mythology and respond to the actual behavioral response their community will encounter during a disaster.

Actual Behavioral Response to Disaster
What can we conclude then about our popular perception of how people behave after a disaster occurs? As has been explained, this perceived tendency for the depravity of humankind to emerge during disasters is not supported by the evidence. The community of individuals does not break down. The norms which we tend to follow during normal time hold during emergency time. In fact, during emergency time the "best within us" is usually exhibited as we become much more altruistic. The sociological literature on disaster documents that individuals tend to become altruistic during time of disaster. Survivors share their tools, their food, their equipment, and especially their time. Groups of survivors tend to emerge to begin automatically responding to the needs of one another. They search for the injured, the dead, and they begin cleanup activities. Police and fire personnel stay on the job, putting the needs of victims and the duty they have sworn to uphold before their own personal needs and concerns. The commonly held view of behavior is incorrect.

Examples of How Myths Do Not Hold. Hurricane Elena impacted upon Gulfport, Louisiana in September 1985 after threatening both Florida and Alabama. Gulfport has been the frequent target of hurricanes. As a result the city was probably as prepared as any impacted area has ever been. The Gulfport emergency management apparatus is very sophisticated with a state of the art Emergency Operations Center (EOC), a model written disaster plan, and highly trained emergency personnel. While the EOC responded to the hurricane's impact by managing the organizational response, there were, of course, many individual citizens who responded to their own and their neighbor's needs. After impact, the streets were flooded and blocked by debris for several hours. Electricity and water service were disrupted for several days. Normal time activities were interrupted for days or, in some instances, for weeks. While looting and price gouging were reported in the media, police records do not indicate any confirmed reports or arrests for such behaviors. The on-site disaster research field team observed that while the National Guard was called out to "prevent looting," its primary role was to direct traffic and help clear debris.

The National Hurricane Center, located in Florida, monitors the path of hurricanes which may threaten the United States. It alerts citizens of any possible impending impact in an attempt to enable potential victims to secure their possessions and find appropriate shelter either in their homes, at another site in the community or through evacuation to another area altogether. The problem with evacuations, however, is that in many communities, potential victims usually have a strong hesitancy to leave their homes for an evacuation location. Many potential evacuees risk injury or death by staying home to "ride it out." Quarantelli and Dynes (1972) note this tendency. Fischer, et al., 1993, observed the same pattern during a technological emergency when a residential community was threatened by potential toxic gases from a major fire in Ephrata, Pennsylvania, in May 1990. Fischer observed the same pattern during a major fire in Philadelphia in 1991.

Some areas regularly threatened by hurricanes develop a disaster subculture whereby citizens celebrate the impending storm by throwing a "hurricane party." These parties may involve going to the beach, beer in hand, to watch for "the big waves to come in." They may, alternately, take a keg of beer up to a nearby lookout to watch the winds blow in. These partygoers may become victims as the storm impacts the area. They had believed that the storm would not exceed anything in their past experience. When it does, the partygoers may be in trouble. When the volcano Mount St. Helens was threatening to erupt, a local television reporter asked Harry Truman (not the former president) "why don't you leave, you've been advised to evacuate in order to save yourself?" Harry responded that he had lived here for decades and never had a problem, "how bad could it be?" Harry died in the explosion and lava flow. He is buried under the debris.

If potential victims do evacuate, they tend to relocate with relatives or friends. The next most likely alternative is staying in a motel. Their least likely choice is the high school gym, the usual evacuation site provided by the community.

Survivors are often believed to exist in a state of shock as a result of their experience (Fischer, 1998). Third person reports have claimed that survivors spent hours walking essentially in circles not knowing where

they were, what happened, or what to do (Fischer, 1998). The sociology of disaster literature (see for example, Quarantelli and Dynes, 1972), challenges this view that victims are usually overwhelmed by disaster shock and become psychologically dependent upon outsiders. Survivors have actually been found to normally behave quite rationally and are the first to respond to their needs and the needs of their neighbors.

Looting is perhaps *the* behavior most expected by the public and officials. Police departments usually talk about the fear and incidence of looting, the media report stories of its occurrence, and governors call out the National Guard to "protect against" it. Potential victims or survivors often report that they will not leave their homes because they fear looting. They paint signs which read: "DON'T LOOT OR WE'LL SHOOT!" While looting does sometimes occur, concern over it far exceeds the rate at which it actually takes place. Unfortunately, excessive time and resources are often expended on looting which could be better employed in mitigating against and responding to higher priorities.

When the average American visualizes a disaster scene, he thinks of the depraved behavior acted out by what is commonly seen as a selfish, self-centered human species which is believed to prey upon itself when disaster victims are vulnerable. We picture convergence of human vultures to the scene for the purpose of extracting victim's personal belongings. While there normally is a convergence, the first converging wave of citizens usually consists of emergency response personnel and average citizens seeking to honestly, altruistically help the victims. The second wave consists of those seeking to observe and personally survey the damage to the area. This second wave is not altruistic, but they are normally not seeking to separate property from the rightful owners. Normal time norms apparently direct many Americans to satisfy the self, but disaster time norms direct us to behave in a selfless fashion. Many confuse the two time periods and reverse the normative response evidenced by the majority of participants. Altruism is the norm during disaster periods.

WHY WE BELIEVE THE DISASTER MYTHOLOGY

Mass Media as a Source of Information on Disasters

The primary source of disaster information for most Americans is the mass media (Wenger, et al, 1975). Our images of what the survivors of Chernobyl must have had to endure have been created through our exposure to television and print news. Similarly, the mass media created our perception of the post-impact damage resulting from Hurricane Andrew in Homestead, Florida, in August 1992. If most Americans rely upon the various forms of mass media to obtain their information about what occurs before, during, and after a disaster, then, it stands to reason, the accuracy of their perception is dependent upon the media. If the media accurately portrays how citizens and emergency personnel respond, then the viewer is more likely to gain an accurate perception and vice versa. We may apply the sociological perspective to help explain the process. The looking-glass self is developed through our interaction with significant others. Our perception of ourselves is based upon our perception of their (significant others) perception of us. What is real about ourselves, in our eyes, is based upon what we think they think we are. We act as if that perception is reality when it may be a misperception. Regardless of whether our perception is accurate or not, we respond on the basis of it being real. It in essence becomes reality. If we apply the looking-glass process to explaining how we come to view our perception of what occurs during a disaster, then our perception of what occurs is based upon our perception of the perception of significant others (the media in this case). Many use the media as significant others in this instance because we *assume* they know what is real as they are on the scene reporting the news, i.e., reality.

The reality Americans perceive as a result of their use of the mass media is often incorrect, i.e., a misperception. Case studies will be presented which empirically illustrate the extent to which various "significant others" misperceive and how they unwittingly perpetuate such

misperceptions to the news consumer. Such misperceptions often result in the allocation of scarce resources for imaginary problems. Adequate resources are often unavailable for combating the actual problems. A working knowledge of what really occurs is needed on the part of local leaders, emergency management personnel, and the residents of the community.

One very important caveat, the mass media has greatly reduced the level of flamboyant exaggeration in what they report as typical behavioral and organizational response to disasters. Fifty years ago, you may have read of the cadaver that had three fingers cut off by a looter stealing rings from a disaster victim. Such extremely exaggerated reporting is far less likely to occur today. However, since a larger portion of the news hole is now devoted to reporting disasters, the opportunity for myth perpetuation is greater today. As a result, a less than accurate image is still commonly portrayed in both the print and broadcast media (Drabek, 1986; Fischer & Bischoff, 1988; Fischer, 1989).

Media Reporting Patterns

The results of several studies (for example, see Fischer & Bischoff, 1988; Fischer, 1989) suggest that there are several factors which may contribute to making it more or less likely that disaster myths will be reported as fact. These factors include the type of news coverage, the interview incidence within a news story, the disaster period being reported on, the news hole size, and the disaster type. The impact of each of these is discussed below.

Soft versus Hard News. A hard news story is one which relates the basic factual information to the reader, e.g., disaster agent (flood, hurricane, tornado, chemical spill), duration of event (storm blew through the area for four hours), how long it took to restore essential services (the electricity was out for eight hours). A soft news story describes alleged behavioral aspects of the event, e.g., a search for a lost cat, search and rescue encounters, convergence activities. These news stories often focus on the tales the survivors have to tell about their ordeal. For example, the police chief of one town told reporters that

looting threatened to become a problem but the National Guard was called out in time to forestall it (Fischer, 1998). When asked how many looters had been apprehended, the chief said, "none, but many were spotted by witnesses."

The greater the emphasis on soft, versus hard news, the greater the likelihood that myths will appear in the story (Fischer, 1998). As soon as the reporter ventures into the personal experiences of those who were there, the *news* story becomes more a news *story*. When the reporter makes the mistake of accepting statements as factually correct, he unwittingly passes on myths which reinforce the view that behavioral response to disaster is characterized by the breakdown of the norms of good citizenship.

Interview Incidence. It stands to reason, then, that as the incidence of soft news interviews increases, an increase in myth reporting results. One may wonder how myths could possibly come from the mouths of "those who were there." Survivors may sometimes exaggerate their experiences, sometimes report what they believe occurred because they believe in the disaster mythology, sometimes misinterpret events, or sometimes be misinterpreted. Local officials may also exaggerate, report what they believe occurred based upon reports to them, misinterpret and be misinterpreted. They also have a vested interest in their community being declared a federal disaster area making federal monies available for rebuilding. This is not to say that they would deliberately misrepresent events, but in their exuberance to do a good job it is possible to succumb to the exaggerations commonly making the rounds through the rumor mill.

Post Impact Period. When the soft news stories focus primarily on events occurring during the immediate post-impact disaster period, the incidence of myth reporting is greater than for any other period. Remember there are five time periods which comprise the life cycle of a disaster: the pre-impact period, the impact period, the immediate post-impact period, the short-term recovery period, and the long-range recovery period. It is during the immediate post-impact period that officials and survivors are most prone to be excited and to exaggerate. During this stage of the disaster life cycle normal time norms are usually

suspended in favor of altruism. In the spirit of openness interviewees gladly share their perceptions of their experiences.

For most types of disasters, media personnel are not able to get on-site until after impact, so the likelihood is great that the interviewing of victims will occur primarily during the post-impact time period when the media rush to publish or broadcast news of the event. Reporters are trained to seek out the most dramatic settings and stories. Thus we tend to see the building that has been damaged most severely, conveying the image that this is typical of the damage sustained in the entire community. We tend to hear the story of victims who most dramatically relate their disaster experience. Once again, we end up with the perception that the account is both true and typical of disaster events. What is the end result? The disaster mythology is again perpetuated to an unwitting audience of readers or viewers. While the *New York Times* decries that it publishes "the truth so that it will make us free," the media, in general, may not provide us with that which does so.

News Hole Size. It should not surprise the reader to learn that when the reporter has more time or space in which to enumerate the activities reported by the survivors, the myth tally increases. When the number of mythical accounts being included in the news story increases, obviously the total number of myths portrayed will increase. Since 1944 the size of the news hole devoted to disasters has dramatically increased in newsmagazines. Only a few column inches were usually allotted to a hard news account of a disaster event in the 1940s, i.e., reporting the type of disaster agent, the location of the event, and the response of the local and state officials. In recent decades, the national print media has devoted an increasing number of column inches to disaster reporting. For example, in the aftermath of the 1985 Mexico Earthquake, *Time Magazine* devoted over 200 column inches to both hard and soft news reporting in the first of three issues published after the quake. The first issue featured the Mexico quake on its cover and as the major story of the magazine that week. As noted earlier, the more space devoted to disaster "news," the more likely we are to be exposed to myths.

Disaster Type. Another variable impacting upon variation of the publication of disaster myths is the type of disaster, i.e., natural versus

technological. Fischer and Bischoff (1988) found that the print media was much more likely to publish myths when reporting on natural disasters. When the disaster was technological in nature, e.g., chemical spill, transportation accident, nuclear power plant radiation leak, the media was much less likely to portray myth. To the extent that technological news stories focus on interviews of survivors during the post-impact period, myths are perpetuated. What usually occurs, however, is that the news stories focus on what happened during the pre-impact and impact time periods. There is the tendency to want to recount events leading up to the airplane crash in an attempt to explain why it occurred in the first place (blame-fixing). Similarly, when a nuclear power plant leaks radiation into the air, the media focus on what happened, why and what to do now to protect oneself. Early interviews focus on what experts have to say, since the survivor cannot provide a technical explanation for what happened. Hard news reporting usually occurs, soft news reports are far less frequent. It is not until the latter part of the disaster life cycle that reports focus more on the effects of the event on local citizens. For example, the early media reports on TMI were concerned with describing the extent of the radiation venting, the degree of danger resulting from exposure to it, and what went wrong in the first place. In time, the focus of an increasing percentage of the TMI news stories focused on the emotional stress of those living within twenty-five miles of the power plant.

We can therefore expect a different response by the media depending on whether the disaster agent is natural or technological. In most cases the natural disaster will be presented in accordance with the mythical model; and, the mythical model will not be portrayed for technological disasters--unless the story's focus is on the post-impact disaster period. During this time period myths are likely to be perpetuated for the technological disaster as well.

National Versus Local Media (Print & Television Broadcast)

Level of Accuracy. During an earlier study of the reporting on the

behavioral and organizational response to Hurricane Gilbert (Fischer, 1989), local and network coverage in both the print and broadcast media was found to be generally accurate. Altruism, instances of typical disaster subculture behavior and the rational behavior of local citizens preparing for, and cleaning up from the storm, were all portrayed rather accurately. Reports were likely to be fairly accurate when assessing property damage, injury and death estimates. Evacuation and shelter estimates were likely to be exaggerated. The most commonly reported aspects of the disaster mythology included references to panic, looting, price gouging and other deviant behaviors.

Local Print and Broadcast Media. Reporters from any medium or locale were found to widely believe in the disaster mythology themselves. Yet, when myths or exaggerations did occur, the *local* print media was found to be the most accurate, the *local* television broadcast media closely followed, while the *network* news reporting was judged to be the most likely to exaggerate. If reporters subscribe to the disaster mythology, then why the difference in reporting accuracy? The news gathering and reporting behavior of local print and broadcast news personnel was primarily governed by an altruistic norm. They sought to gather and disseminate the information their community needed in order to adequately prepare themselves and to protect the community from impact. Even though most local news personnel believed in the mythology, the accuracy of their reporting was enhanced by their organizational approach to the news. They tended to devote large portions of their coverage to the prepared statements of emergency management spokespersons. Hence, the accuracy of their news depended upon the accuracy of these sources. They were found to be accurate in the communities under study.

National Media Reporting. The news gathering and reporting behavior of network and national print news personnel, on the other hand, was primarily *not* governed by an altruistic norm, but by a self-interest norm. They were not part of the community, but converged to it for the purpose of covering the storm. The network media particularly functioned as pack animals (Scanlon, 1978) and gathered in herds along the coastal beaches of those cities deemed most likely to be impacted.

They tended to bring interviewees to their satellite locations and sent film crews around the area to obtain dramatic video to use as a backdrop for their summarized versions of the community's response. The network productions were far more staged than the local news. The network audience was seen as being more global and though the reporters themselves would not perceive it to be true, an entertainment ethic was a underlying focus driving those reporters who converged to the impact site. As it became clear that the storm would not directly impact directly the Texas coast, they had to go ahead and gather "good pictures" and portray the drama they expected of such an event. They were there to cover the big story, and they created, staged, and broadcast as big a story as they could. As a result, the weather was exaggerated; evacuation rates and the number of sheltered evacuees were exaggerated. Deviant behaviors of the disaster mythology were more likely to be noted. They staged events that they *thought* were indicative of what was really happening. Even when officials are not mistakenly reporting such behaviors, reporters asked if any had occurred, implying that their occurrence is normal and to be expected. The trouble with their organizational approach was that they were wrong about what they thought typically occurs. Their perception of reality, however, framed the news story they created and portrayed to their consumers. Myth perpetuation is the direct result.

While reporters from all mediums sought the command post view (Quarantelli, 1981) of the disaster, local reporters (both broadcast and print) devoted more of their reporting to what the local officials were saying than the network reporters did. In the case of Gilbert, this facilitated greater accuracy, as many of the officials were very knowledgeable. The network crews sought to manage their news to present the story that they believed accurately portrayed what occurs in such a disaster. Their creative efforts, however, tended to result in greater inaccuracy. Their erroneous definition of the situation, coupled with the organizational structure allowed them to stage what they sought to broadcast, produced the more fabled version of the news story.

Summary. First, the media was fairly accurate in their overall portrayal of the behavioral response to the threat posed by Hurricane Gilbert.

They were particularly accurate when it came to portraying rational behavior in preparation for the storm, in portraying the usual disaster subculture behavior, and in portraying the usual altruism. Second, the media was found, however, to exaggerate the evacuation rates, shelter populations, and the gravity of weather changes. Third, the disaster myths most often perpetuated were looting, price gouging, and panic. And fourth, variation in accuracy was observed between the various media forms. Reasons suggested for this variation center around three themes. (1) Most news personnel subscribed to the disaster mythology. Their belief in the mythology influenced their view of what constituted reality. Their news gathering and reporting was influenced by their perspective, i.e., the mythology was reality to them which. The story they sought to gather news on, conformed to their view of reality, i.e., myths. Variation in organizational approaches to gathering and reporting news affected the extent to which the belief in the disaster mythology framed the accuracy of news reporting, however. (2) Norms governing local versus network news gathering and reporting affected accuracy, in that the local media were more altruistic while the network organizations were more self-serving. (3) Differences between the organizational approaches to news gathering and reporting resulted in greater or lesser control of what constituted news, and hence, affected accuracy. The greater the control, the greater the inaccuracy, for control resulted in managing the news to reflect the (mythical) perception of the behavioral response to Gilbert.

Local media personnel were governed by a norm that defined their role as being the information gatherer and disseminator to help save their community (an example of the altruism typically experienced by most would-be victims). Local news organizations tended to serve as a conduit for disseminating the information the local emergency management officials wished the public to have. These news organizations would broadcast the entire press conferences held by local emergency management officials. The local print media would devote major stories to reprinting the transcripts of these press conferences. Accuracy was therefore dependent upon the degree to which local officials subscribed to an accurate or mythical view of the behavioral

response to disasters. The network organization personnel functioned as pack animals, i.e., they traveled together when gathering the news, focusing more on avoiding being scooped than on getting the scoop. They would often set their cameras and satellite dishes away from the EOC and other emergency response organizations, preferring more picturesque settings like the seacoast. Once their satellite dishes were set in place they tended to bring interviewees to their location. This practice gave greater control of the news making process to the networks. Network personnel were governed by a norm defining their role as that of managing the news to provide a good picturesque story for their viewers. The news they created tended to conform to their perception of the behavior they expect during a disaster. Greater control over news management resulted in greater inaccuracy.

THE CURRENT RESEARCH QUESTION

Why does belief in the disaster mythology continue to plague us? Regardless of research findings (for example, see Fischer, 1998) many still believe panic flight, martial law, psychological dependence, looting and other forms of deviant behavior, price gouging, disaster shock, contagion, and the mass sheltering of a majority of the would-be victims are all symptomatic of a community's disaster response. The focus of the current study is to determine the extent to which the media still perpetuates the disaster mythology. In essence, the goal is to determine what has changed during the last ten years. We will compare the findings of the Hurricane Gilbert study, conducted in 1989, with those of Hurricane Georges. Has accuracy improved? Is a difference observed between the reporting accuracy and organizational style of local versus national print and broadcast media? If there is a difference, why is this the case? To what extent does a normal time relationship between the press and emergency management officials influence disaster time reporting? To what extent does an implemented plan to disseminate information to the press during disaster time impact on reporting

accuracy? These are the primary questions the current study seeks to address.

METHODOLOGY

Before Entering the Field

Our research team monitored Georges' advance through the Caribbean and into the Gulf. We began monitoring national print (*USA Today* and *New York Times*) and broadcast media (CNN and NBC) news coverage of the event. The decision was made to contact the Natural Hazards Center to request activating our Quick Response Grant proposal. After receiving approval to enter the field, travel arrangements were made and rapport was established with several emergency management directors (Harrison County Civil Defense, Gulfport, Mississippi and the State Emergency Management Director located in Jackson, MS) by telephoning them to obtain their cooperation in the study. These arrangements were all made on Monday, September 28, 1998. Preparations for conducting the study were finalized, e.g., preparing interview guides, equipment, and so forth.

Time Line of Field Activities

Tuesday, September 29, 1998. This researcher left the university at 11:00 a.m., arrived at the Baltimore-Washington International Airport at approximately 1:00 p.m. Departing at 2:10 p.m., the flight arrived in New Orleans at 4:10 p.m. Central Time. New Orleans was selected as the non-stop destination closest to the impact area. The decision was made to enter the field as soon after impact as possible in order to be onsite for as much of the immediate post-impact time period as possible and then stay in the field for the response and early recovery phases. Monitoring of local television and radio broadcasting as well as the reporting of local and national newspapers was initiated upon arriving in the field. A quick assessment was made of the following: current location of the hurricane, current projected path, the current most

severely impacted area, identification of which television, radio stations and newspapers were local to the impacted area. Published and broadcast media were monitored throughout the evening. Plans were made based upon recent information on the path and impact of Georges.
Wednesday, September 30, 1998. Published and broadcast media were monitored from 6:00 a.m. through 8:00 a.m. from the hotel in New Orleans. This researcher left New Orleans for the Mississippi Gulf coast. He toured the impacted areas of Gulfport, Biloxi, and Pascagoula. After locating the Jackson County EOC in Pascagoula, he interviewed the assistant to the Civil Defense director and the county public information officer. Outside of the EOC he encountered a reporter from the local television station who agreed to be interviewed. The reporter shared that the Governor would be having a press conference at the National Guard Armory in an hour. Realizing that print and broadcast media from various organizations and emergency management personnel from local, state, and national levels would likely be at such an event, this researcher drove to the armory. Arriving a half hour before the scheduled press conference he found several local emergency management personnel present and began to conduct interviews. The press gradually arrived. Print media reporters milled around together. Television cameramen placed their cameras side-by-side and their reporters milled around together. Since the principals were more than half an hour late arriving, the researcher was provided with almost an hour and a half to interview media personnel and emergency management personnel. These interviews included reporters from three different local television stations, a reporter from CNN, an AP reporter, and reporters from two local newspapers. Interviews were also conducted with three county supervisors, the state emergency management director, the region FEMA coordinator, the region FEMA public information officer; and brief conversations were held with Senator Trent Lott and FEMA Director James Lee Witt. Some of the interviews were conducted after the press conference.

While traveling between locations, the researcher monitored the local radio station broadcasts to assess the nature of the broadcasting related to Georges. He also periodically accessed Web sites for NBC, CNN, the

local television station (WLOX), and a local newspaper (The Sun Herald) in order to monitor reporting on the Internet. He visited grocery stores that were open in order to conduct brief interviews with customers re their perception of the usefulness of the media's reporting during their experience with Georges. Similar interviews were conducted at sites in the various communities where organizations, Salvation Army, Red Cross, Baptist Disaster Relief Services, local businesses, set up distribution sites to give away ice and food to those in need. Upon returning to the motel (after a long, tiring, yet fruitful day), the researcher monitored print and broadcast media reporting.

Thursday, October 1, 1998. Monitored print and broadcast media reporting between 6:00 and 8:00 a.m. Telephoned two local newspapers to arrange obtaining copies of newspaper issued from Friday, September 25 through Monday, October 5, 1998. Librarians from both papers agreed to send the requested copies complimentary to support the research effort. Telephoned video librarian at local television station, WLOX. Discussed desire for copy of broadcasts before, during, after impact. Arranged to meet at station Friday morning.

Traveled to Harrison County Civil Defense EOC in Gulfport. Conducted in-depth interviews of Civil Defense Director, County Supervisor, and Public Information Officer. Toured Gulfport, Biloxi, and Pascagoula to assess current state of emergency. Visited Biloxi municipal EOC but found it to be closed. Later discovered it was open briefly as a command post during height of event. Traveled to Jackson County Civil Defense EOC in Pascagoula. Conducted in-depth interviews of Civil Defense Director, County Supervisor, and Public Information Officer. Visited food and supply distribution sites in both counties: Salvation Army, Red Cross, Mississippi Baptist Disaster Relief, and several distribution sites set up by local businesses. Interviewed personnel at each re their interaction with media, their perception of how the media was helpful and problematic with respect to their mission during the current event. Spent evening monitoring broadcast media reporting.

Friday, October 2, 1998. Monitored print and broadcast media reporting between 6:00 and 8:00 a.m. Traveled to Biloxi to meet video librarian of WLOX-TV. Interview and discussion of round-the-clock

reporting this station broadcast beginning on the Saturday preceding impact and continuing through Tuesday after impact. Explained goal of current study, sought cooperation of this station to obtain copy of the entire round-the-clock broadcast. Agreed to pay up to $250 to help defray expense of the tapes and the copying process--but asking cooperation considering goal of such research. The station would eventually decide on only release a purchased copy of their edited special on the storm experience-much to the disappointment of the research team.

Continued impromptu interviews of citizens in shopping mall to determine their perception of media during event, the extent to which they were aware of media reporting, if they based decisions upon such information, etc. Returned to Harrison County Court House in Gulfport. Checked in to see what may be new with experience and perception of CD personnel. Began organizing field notes with help of laptop computer. Returned to motel to continue field note organization and development on laptop. Checked Internet sites for news bulletins. Then spent rest of afternoon beginning to conduct content analysis of local newspaper reporting. During evening monitored television broadcast reporting.

Saturday, October 3, 1998. Monitored print and broadcast media reporting between 6:00 and 8:00 a.m. Returned to Pascagoula as river was reported as rising due to upstream flooding. Found several print and local broadcast media and conducted interviews. Monitored broadcast news coverage during evening news broadcasts.

Sunday, October 4, 1998. Work continued on developing field notes, continuing content analysis of newspapers, and drafting field report. Traveled to New Orleans International Airport for flight back to Baltimore. Baltimore flight arrived at approximately 8:10 p.m. Traveled to Millersville, Pennsylvania, arriving at approximately 10:45 p.m.

Monday, October 5, 1998. The field report was completed. Plans were made for further data gathering and data analysis. The two research assistants began assisting the principal researcher in planning and conducting the content analyses to be conducted on print and broadcast news stories and to compile the interview data.

Research Activities After Returning From the Field

Telephone Interviews. During the ensuing weeks, plans were made to conduct telephone interviews with various emergency management officials and media personnel. A total of 46 interviews were conducted (in the field and after returning from the field). Those interviewed included the Director, Regional FEMA PIO, Harrison County Civil Defense Director, Jackson County Civil Defense Director, local television reporters and news personnel (e.g., WLOX), CNN and NBC reporters, Associated Press (AP) reporters, and local newspaper reporters (e.g., The *Sun Herald* and *The Mississippi Press*).

Content Analysis of Print Media Reporting. A content analysis was conducted for the news articles published pre-impact, impact, and post-impact time periods by *The New York Times*, *USA Today* (both national papers), The *Sun Herald*, and *The Mississippi Press* (both local papers). A total of 268 news stories were examined.

Content Analysis of Broadcast Media Reporting. A content analysis was completed for the news segments broadcast by NBC, CNN (both national markets), and WLOX (local television station). While the video taping of the NBC and CNN broadcast segments was incomplete, a fortuitous cross-section was examined. A fortuitous cross-section of news stories from WLOX was also examined and was supplemented by the special produced by the television station during the recovery period. A total of 95 news segments were examined.

Content Analysis of Media Web Sites. A content analysis was conducted while in the field for several the websites of NBC, CNN and WLOX.

Media Portrayal of the Behavioral Response to Hurricane Georges

Actual Behavioral Response

Elements of the disaster mythology, e.g., looting, price gouging by local merchants, panic, declaration of martial law, disaster shock, massive evacuations, were *not* observed in the field. Evacuation patterns

appeared to subscribe to those typically found in a commonly threatened environment. Altruism was apparent among the overwhelming majority of residents. For example, one local radio station continued to broadcast throughout the pre-impact, impact and immediate post-impact time periods in a fashion that was geared to serving the community. With electricity out for most residents, obtaining response information through television broadcasts was virtually impossible. For those who had battery powered radios, the local radio station was their link to the world during the storm and provided them with response information after impact. The radio station essentially turned their microphone over to those disseminating emergency mitigation and response information as well as to those calling in during the post-impact period trying to locate missing relatives in the area.

The Media's Portrayal
Broadcast Media. The local broadcast media during Hurricane Georges responded in a very similar fashion as they did during Hurricane Gilbert, ten years earlier. They tended to assume the role of the victim and sought to disseminate information that would directly benefit their community. During the pre-impact time period they tended to focus on weather information, mitigation plans and activities, and evacuation plans. During the immediate post-impact time period they focused on weather information, damage, search and rescue activities, ongoing flood dangers, and cleanup activity. The news coverage was as accurate as their sources in that they tended to turn much of the control for the content over to the local authorities pursuant to serving the community with mitigation and response information. The news stories were found to have very few allusions to the disaster mythology. When such did occur, they portrayed looting or the threat of looting as the primary deviant problem. While noting how their community was pitching in to help one another, the implication was made that this was somehow different from what might be found elsewhere.
While the local broadcast media were found to parallel their accurate portrayal of behavioral response found ten years earlier, the national media were found to have changed somewhat-improving! There appear

to be two reasons for this, one perhaps by chance, the other perhaps by design. CNN was less likely to emphasize deviant behaviors commonly ascribed to the disaster mythology when compared to their coverage of Hurricane Gilbert. Why? They provided a much smaller percentage of the news hole to Georges. Their Hurricane Georges coverage focused more on damage, weather, flooding problems, evacuations and less on elements of the disaster mythology. This may not have been a deliberate strategy or the result of an increased awareness of what constitutes the likely behavioral response, for they did also focus on the deployment of the National Guard for security purposes (implying the likelihood of deviance). Hurricane Georges just was not perceived as the threat that Hurricane Gilbert had been perceived to be during the post-impact period. Media coverage in general of Georges was a mere shadow of that which descended on the Texas Gulf Coast in 1988.

On the other hand, NBC news coverage was significantly improved from that typical of the networks ten years earlier. During Hurricane Gilbert, the usual reporting format for network news was to recreate what the reporter perceived to be the typical behavioral challenges faced during a major emergency or disaster event. The reporting by NBC's Robert Hager, was that of a science teacher trying to educate an unknowing public. Those watching Hager's reports would have benefited whether they were within Georges' grasp or not. Those who were not would be better prepared to their own possible future victimization by another storm. For example, Hager demonstrated that where he was standing would likely be well under water in 24 hours as the storm surge preceding Georges would flood the area in which he was standing. Detailed analysis was provided demonstrating what a storm surge is, how it is dangerous and why residents should evacuate. He even noted that many hesitate to do so, but outlined the reasons why it would be better to err on the side of safety. Instead of following an *entertainment norm*, this NBC coverage embraced a *public service norm*. Robert Hager's reporting on Hurricane Georges should be held up as a model for television broadcasting everywhere.

Print Media. As with Hurricane Gilbert, the local and national print media tended to report on the behavioral challenges rather accurately

during Georges. They focused on weather, mitigation activity, damage, response and clean up activities. There was some focusing again on deviant behavior, primarily looting, but also alleged concern for price gouging. As with Gilbert, the local print media focused more, however, on disseminating information from local authorities which would help survivors. The national print media, on the other hand, focused more on the overall story line of how the storm was progressing and impacting the area. Both local and national print media gave some effort to the *public service norm* in including information in their news stories that was educational in terms of the need for evacuation when called upon to do so.

Websites. While in the field, the principal researcher accessed the websites of local and network broadcast media to conduct a content analysis of their news coverage. News summaries were found at these sites which focused on damage, storm trends, flooding as well as cleanup activities. Hard news was the primary focus, with little soft news. Virtually no elements of the disaster mythology were observed.

Emergency Time Media-Emergency Interaction: The Tale of Two Cities

Media Viewed as Helpmate. During Hurricane Georges every community did not view the media from the same perspective. Some communities found their local print and broadcast media to be quite useful in helping them prepare for and response to Georges. In these communities, both reporters and emergency management personnel praised each other publicly and privately (during interviews with the researchers) for helping each other get the job done. Reporters felt emergency management was totally open and provided them with information they sought and even anticipated their needs. Emergency personnel in these communities stated that their local press helped residents with necessary mitigation and response information that helped to save lives, limit injury and reduce property damage.

Other communities did not celebrate the same experience. During Georges there were citizens who felt they watched television news which helped their neighboring county, but not their own. In these

communities both reporters and emergency personnel felt antagonist toward one another. The reporters claimed emergency management tried to limit access to information, attempted to exclude them and saw them as they enemy. These emergency personnel did not like the way they were portrayed, or actually overlooked, in the local media coverage. In fact, one local official was widely expected to retire now "after the bad experience" he had been through with the press and how the public critically responded to his efforts as a direct result.

Why the differences between these two types of communities? The emergency personnel in the first community experience were found to be very knowledgeable about the needs of the press during a disaster or major emergency. Part of their planning had included how to provide the press with continually updated information of the type they needed. Regular press conferences were scheduled in a timely fashion. Emergency management had educated itself as to how to feed the press and implemented plans to do so successfully. The press provided emergency management personnel with information in return and they appear to have tried to do their best to help emergency personnel get their information out to the public. In the other community experience, emergency personnel had not prepared to feed the media, did not trust the media, and tried to shun them. The press, in return, shunned these emergency personnel which made it virtually impossible for them to get information out to their citizens. When these emergency personnel were portrayed in the media at all, it was not in a good light. The second experience also appeared to this researcher to be far less prepared in any number of ways for dealing with a disaster event. There may be many reasons for the different apparent levels of preparedness including the economic differences of the two communities. However, one conclusion was drawn by the research team: a viable plan, implemented during disaster time, which includes working with the media to meet the combined needs of the press and emergency management results in a winning outcome for the press, emergency management, and, most importantly, the community at large.

CONCLUDING SUMMARY OBSERVATIONS

Local Print and Broadcast Media. The most common observation made by emergency personnel has been that the local media was a real asset in raising the public's awareness of the need to take Georges seriously, prepare, and evacuate. The local media was widely viewed as performing a valuable function of getting information out to help survivors and responders. The local media similarly shared the view that local emergency responders were very helpful and open making the media's job easier to help the community.

The print and broadcast media reporting was remarkably accurate in the sense that reporters focused on those issues and challenges which researchers and practitioners have found to be most important to focus on during emergency time periods. While misinformation was disseminated and while some behaviors commonly found to be exaggerations or mythical in nature were released by the media, these problems appeared to be less of a problem than what has often been found in the past. As in the Gilbert study, reporting did seem to follow a pattern of turning the press and camera over to the local officials. If the local officials provided accurate information, accurate information was likely to be reported. The local media, as part of the impacted area, responded in a rather altruistic fashion trying to share mitigation and response information that was of use to their neighbors.

National Print and Broadcast Media. The greatest change may be found among the national media, particularly the television networks. The focus was different in two respects. Less time was devoted to the story (which may have led to an accidental reduction in myth portrayal) and an educational (as opposed to an entertainment) norm was introduced by at least one news reporter. Instead of merely recreating the reporter's perception of the behavioral challenges experienced in a disaster, reporting shifted somewhat to providing information that current and future potential victims would find helpful in understanding the danger of the storm surge, flooding, and the need to evacuate.

Importance of Disaster Time Media - Emergency Management Relationship. The importance of preparing to involve the media in information dissemination during emergency time was found to be very apparent in the Mississippi Gulf Coast experience with Hurricane Georges. When emergency management prepared for and aided the press in information gathering and dissemination a working partnership of mutual respect was formed. The outcome? The community benefited. When emergency management had not prepared for or aided the press in their information gathering and dissemination the outcome was far less effective for the media, emergency management or the community.

REFERENCES

Aga Khan, P.S. 1983. "Disasters: Myth and Reality." *Undro News*. November/December.

Anderson, P.S. 1995. "The Biggest Mutual Aid System on Earth: the Internet in Emergency Management." *NCCEM Bulletin*, pp. 7-9.

Anderson, William A. 1969. *Local Civil Defense in Natural Disaster: From Office to Organization*. Columbus. Ohio: Disaster Research Center, The Ohio State University.

Bartlett, G.S., P.S. Houts, L.K. Byrnes, and R.W. Miller. 1983. "The Near Disaster of Three Mile Island," *International Journal of Mass Emergencies and Disasters*, Vol. 1, March, pp. 19-42.

Barton, Allen H. 1969. *Communities in Disaster: A Sociological Analysis of Collective Stress Situations*. Garden City, New York: Doubleday and Company, Inc.

Bryan, J.L. 1982. "Human Behavior in the MGM Grand Hotel Fire." *Fire Journal* 76, (1982):March 2.

Drabek, Thomas E. 1968. *Disaster in Aisle 13*. College of Administrative Science. Columbus, Ohio: The Ohio State University.

Drabek, Thomas E. 1969. "Social Processes in Disaster: Family Evacuation." *Social Problems* 16 (Winter):336-349.

Drabek, Thomas E. 1986. *Human System Responses to Disaster: An*

Inventory of Sociological Findings. New York: Springer-Verlag.

Drabek Thomas E., and Keith Boggs 1968. "Families in Disaster: Reactions and Relatives." *Journal of Marriage and the Family*. 30 (August):443-451.

Drabek, Thomas E., and E. L. Quarantelli 1967. "Scapegoats, Villains, and Disasters." *Transaction* 4 (March):12-17.

Dynes, Russell R., and E.L. Quarantelli. 1975. *The Role of Local Civil Defense in Disaster Planning*. Columbus, Ohio: Disaster Research Center, The Ohio State University.

Fischer, Henry W., III. 1988a. *Behavioral and Organizational Response to Disaster*. Alliance, Ohio: Social Research Center, Mount Union College.

Fischer, Henry W., III. 1988b. *Disastrous Fantasizing in the Print Media: Differences in How Natural versus Technological Disasters Are Portrayed over a Forty-year Period*. Alliance, Ohio: Social Research Center, Mount Union College.

Fischer, Henry W., III. 1989. *Hurricane Gilbert: The Media's Creation of the Storm of the Century During September 1988*. Boulder, Colorado: The Natural Research and Applications Center, The University of Colorado.

Fischer, Henry W., III. 1998. 2nd Edition. *Response to Disaster: Fact Versus Fiction & Its Perpetuation*. Landham, Maryland: University Press of America.

Fischer, Henry W., III. 1996. "What Emergency Management Officials Should Know To Enhance Mitigation and Effective Disaster Response." *Journal of Contingencies and Crisis Management*. 4-4:208-217.

Fischer, Henry W., III, and Beth E. Bischoff. 1988. *Technological Disasters: As Portrayed by the National Print Media*, 1945-1985. Paper presented at the annual meetings of the North Central Sociological Association. Pittsburgh, Pennsylvania.

Fischer, Henry W., III, and Eric M. Drain. 1993. "Local Offices of Emergency Preparedness (LEMA) Belief in Disaster Mythology: What Has Changed and Why?" *The International Journal of Disaster Prevention and Management*. 2-3:58-69.

Fischer, Henry W., III, and Kathleen McCullough. 1993. "The Role of

Education in Disaster Mitigation Adjustment." *The International Journal of Disaster Management*. 5-3:123-129.

Fischer, Henry W., III, and Marna L. Trowbridge. 1992. "The Limited Role of Disaster Experience in Mitigation Adjustment." *The International Journal of Disaster Management*. 4-2:131-137.

Fischer, Henry W., III, Susan Schaeffer, and Marna L. Trowbridge. 1992. *The Impact of Media Blame Assignation on the EOC Response to Disaster: A Case Study of the Response to the April 26, 1991 Andover (Kansas) Tornado*. A Quick Response Grant Final Report. Boulder, Colorado: The Natural Hazards Research & Applications Information Center, The University of Colorado.

Goltz, James D. 1984. "Are the News Media Responsible for The Disaster Myths? A Content Analysis of Emergency Response Imagery." *International Journal of Mass Emergencies and Disasters*. 2 (November):345-368.

Johnson, Norris. 1987. "Panic and the Breakdown of Social Order: Popular Myth, Social Theory, Empirical Evidence." *Sociological Focus*. 20:(August) 3.

Mileti, Dennis S. 1975. *Natural Hazard Warning Systems in the United States: A Research Assessment*. Boulder, Colorado: Institute of Behavioral Science, The University of Colorado.

Mileti, Dennis S., Thomas E. Drabek, and J. Eugene Haas. 1975. *Human Systems in Extreme Environments*. Boulder, Colorado: Institute of Behavioral Science, The University of Colorado.

Myers, Mary Fran. 1993. "Bridging the Gap between Research and Practice: The Natural Hazards Research and Applications Information Center." *International Journal of Mass Emergencies and Disasters*. 11:1 (March):41-54.

Neal, David. 1993. "Integrating Disaster Research and Pracetice: An Overview of Issues." *International Journal of Mass Emergencies and Disasters*. 11:1 (March):5-14.

Nigg, Joanne M. 1982. "Communication Under Conditions of Uncertainty: Understanding Earthquake Forecasting." *Journal of Communication*. 32:27-36.

Nigg, Joane M. 1987. "Factors Affecting Earthquake Threat Awareness

and Response." Paper presented at the Pacific Conference on Earthquake Engineering, New Zealand, August 5-8.

Quarantelli, E.L. 1981. "Panic Behavior in Fire Situations: Findings and a Model from the English Language Research Literature." Pp. 405-428 in *Proceedings of the 4th Joint Panel Meeting, The U.J.N.R. Panel on Fire Research and Safety*. Tokyo: Building Research Institute.

Quarantelli, E.L. 1980. *Evacuation Behavior and Problems: Findings and Implications from the Research Literature*. Columbus, Ohio: Disaster Research Center, The Ohio State University.

Quarantelli, E.L. 1976. "Human Response in Stress Situations." Pp. 99-112 in *Proceedings of the First Conference and Workshop on Fire Casualties*, B.M. Halpin (ed.). Laurel, Maryland: Applied Physics Laboratory, Johns Hopkins University.

Quarantelli E.L., and Russell R. Dynes. 1972. "When Disaster Strikes (It Isn't Much Like What You're Heard and Read About)." *Psychology Today* 5 (No.9):66-70.

Quarantelli, E.L., and Russell R. Dynes. 1972. *Images of Disaster Behavior: Myths and Consequences*. Newark, Delaware: Disaster Research Center, The University of Delaware.

Quarantelli, E.L. and Kathleen Tierney. 1979. "Disaster Preparation Planning." Pp. 263-313 in *Fire Safety and Disaster Preparedness*. Washington, D.C.: Office of Public Sector Programs, American Association for the Advancement of Science.

Rubin, Claire B., and R. Palm. 1987. "National Origin and Earthquake Response: Lessons from the Whittier Narrow Earthquake." *International Journal of Mass Emergencies and Disasters*. 53:347-356.

Scanlon, T. Joseph with Rudy Luukko and Gerald Morton. 1978. "Media Coverage of Crisis: Better Than Reported, Worse Than Necessary." *Journalism Quarterly*. 55 (Spring):68-72.

Stallings, Robert A. 1984. "Evacuation Behavior at Three Mile Island." *International Journal of Mass Emergencies and Disasters*. 2 (March):11-26.

Wenger, Dennis. E. 1985. *Mass Behavior and Disaster*. Newark, Delaware: Disaster Research Center, The University of Delaware.

Wenger, Dennis E. 1980. "A Few Empirical Observations Concerning

the Relationship Between the Mass Media and Disaster Knowledge: A Research Report." Pp. 241-253 in *Disasters and the Mass Media: Proceedings of the Committee on Disasters and the Mass Media Workshop*. Committee on Disasters and the Mass Media. Washington, D.C.: National Academy of Sciences.

Wenger, Dennis E. 1978. "Community Response to Disaster: Functional and Structural Alterations." Pp. 17-47 in *Disasters: Theory and Research*, E.L. Quarantelli (ed.). Beverly Hills, California: Sage.

Wenger, Dennis E., James D. Dykes, Thomas D. Sebok, and Joan L. Neff. 1975. "It's a Matter of Myths: An Empirical Examination of Individual Insight into Disaster Response." Mass Emergencies. 1:33-46.

Wenger, Dennis E., and Barbara Friedman. 1986. *Local and National Media Coverage of Disasters: A Content Analysis of the Print Media's Treatment of Disaster Myths*. Newark, Delaware: Disaster Research Center, The University of Delaware.

Wenger, Dennis E., Thomas F. James, and Charles F. Faupel. 1980. *Disaster Beliefs and Emergency Planning*. Newark, Delaware: Disaster Research Project, University of Delaware.

APPENDIX

CONTENT ANALYSIS FORM FOR HURRICANE GEORGES MEDIA STUDY MISSISSIPPI GULF COAST
Impact 3:40 a.m. Monday, September 28, 1998

```
Newspaper:_____
Publication Date:_____

Column Inches:_____
Page(s):_____

Disaster Period of Reporting:
[] Pre-Impact
[] Impact
[] Immediate Post-Impact
[] Short Term Recovery
```

[] Long Term Recovery

News Type:
[] Hard News
[] Hard News Emphasis with some Soft News
[] Equally Hard & Soft News
[] Soft News Emphasis with some Hard News
[] Soft News

Indicated Sources of Information: # of Times
Reporter Him/Herself
Emergency Management Personnel
Citizen (from Community)
Other (who?_____)

Reporting Themes   # of Times
Weather Information
Damage
Injury/Death
Mitigation Activities (boarding up, evac)
Response Activities (help, food distribution)
Deviant Behaviors (loot, price gouge, panic)
Other (what?_____)

HURRICANE GEORGES MISSISSIPPI GULF COAST MEDIA STUDY INTERVIEW GUIDE

Media Questions

1 What was the focus of your reporting during this event:
1   during pre-impact?
2   during impact?
3   during post-impact?
2 Why did you focus on these stories?
3 Did the local CD/EOC help you get the information you needed to accomplish your mission?
1   Explain:
2   Were they accessible?
3   How did they function to provide you with information?
4   What kind of information was provided?
5   How often did they provide it?

6   Did this process appear to work well?

4 What would you like to see them do (differently or in addition to) in the future to help you do a better job?

5 What did they do particularly well this time?

6 What technologies were used this time: FAX, Web site, Emergency Information Network, other?

7 How accurate was the information you had access to? Explain.

LEMA Questions

1 What was your primary focus during:

1   pre-impact?

2   impact?

3   post-impact?

2 How soon was the media asking for information? What kinds of information; from which media forms (television, radio, print; local, out-of-town)?

3 Did the media (differentiate by type of media and level) help you accomplish your mission?

1   Explain:

2   Were their requests for information and accessibility reasonable? Explain:

3   What kind of information did you provide?

4   How did you provide it (how control info flow)? Technology used?

5   Did this process appear to work well?

6   How often did you provide info?

4 What would you like to see them do (differently or in addition to) in the future to help you do a better job?

5 What did they do particularly well this time?

6 What technologies were used this time: FAX, Web site, Emergency Information Network, other?

7 How accurate was the reporting you had access to? Explain.

 Return to Hazards Center Home Page

July 24, 1999
hazctr@colorado.edu