

Natural Hazard Research

THE ROLE OF THE BLACK MEDIA IN DISASTER REPORTING TO THE BLACK COMMUNITY

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October, 1986



Working Paper #56

This study was supported by funds made available by the National Science Foundation, Grant No. CEE-8103698. The findings and opinions reported here are those of the authors and do not necessarily reflect the views of NSF.

SUMMARY

"The only thing that I can think of that comes close to what that hurricane felt like was Vietnam. Wait a minute. I take that back. Not even Vietnam comes close."

Mobile, Alabama, Hurricane Victim

This report is intended to contribute to the growing body of information and data concerning natural disasters. Perhaps more importantly, it represents the first attempt to analyze the impact and potential of the black media in reporting and responding to such phenomena. It traces and interprets the sequence followed by black media operators in Mobile, Alabama, in gathering, selecting, and disseminating information about pre- and postdisaster activities. The report reviews the capability of the black media to reach large sections of the black community, assesses the ability of the black media to influence community actions to ensure safety, and describes the current and potential ability of both local and national black media to educate black communities concerning disaster mitigation, relief, and recovery programs.

Following a general review of related literature, the family survey is described. Questions asked of representatives from the media and from programs such as the Mobile County Civil Defense Headquarters, and a qualitative analysis of the responses, are presented next. The coverage of hurricanes by the local newspapers ten years before and two years after Hurricane Frederic are examined next. The final section reviews the findings of the study, presents the major conclusions drawn, and makes recommendations concerning use of the findings.

ACKNOWLEDGMENTS

We extend our sincerest appreciation to many individuals and organizations for their invaluable assistance, support, and suggestions during the research and analysis reported here, among them: William Anderson, our National Science Foundation Project Manager; The Mobile County Urban League, especially H. Chris Williams, Executive Director; Fred Palmer of the Mobile County Civil Defense Headquarters; Alvin Lovett and Tena Johnson of WALA TV; Floyd King, Jr., a concerned citizen; Lencie Thomas, owner of The Beacon, Fallon Trotter, Executive Editor of The Press Register; Charles Porter, owner and publisher of The Inner City News; Larry Williams, Station Manager for WBLX radio; Charles Moss, Program Director for WKRG radio; Irene Ware, Station Manager for WGOK radio; and Rane Stigler, Chief Engineer for WABB radio.

Nancy Lillegard and Deborah Ziegler, both of New Mexico State University, and Deborah Walls-Johnson of Morgan State University served ably as research assistants on the project. In addition, we would like to thank Charlotte Stewart, Patricia Thomas, and Madeline Davis from Morgan State University's Institute for Urban Research, and Bevelyn Young at The Piney Woods Country Life School for their secretarial and administrative support.

The local, on-site field interviewers from the city of Mobile, Alabama, deserve recognition for their diligence in interviewing 200 households. We also thank the citizens of Mobile who thoughtfully responded to our inquiries.

We especially want to acknowledge Wornie Reed, Director of the Institute for Urban Research at Morgan State University, for his helpful review and comments, and the staff of the Natural Hazards Research Applications and Information Center at the University of Colorado for their assistance. Last, but not least, we thank our families and friends for their understanding and encouragement throughout the course of the project.

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PREFACE

This paper is one in a series on research in progress in the field of human adjustments to natural hazards. It is intended that these papers be used as working documents by those directly involved in hazard research, and as information papers by the larger circle of interested persons. The series was started with funds from the National Science Foundation to the University of Colorado and Clark University, but it is now on a self-supporting basis. Authorship of the papers is not necessarily confined to those working at these institutions.

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INTRODUCTION

A recent publication by the National Academy of Sciences, Disasters and the Mass Media (1980), concluded that television, radio, and newspapers can influence attitudes and behaviors of individuals and organizations regarding natural hazards, disaster relief, and recovery. However, the study points to a lack of adequate systematic research on the specific roles of the media in disaster reporting and on human responses to information on natural disasters within minority communities. Specifically, no research has been conducted to address the influences of black-owned or black-managed media on disaster preparedness and response in black communities. Lindell, Perry and Greene (1980) found a death rate of 38 per 1,000 for blacks after Hurricane Audrey struck Louisiana in 1957. They also noted that, in the aftermath of a tornado in Waco, Texas (1953), 4% of white families reported one member seriously injured, compared to 12% of black families. This study interpreted these findings as indicating that minority groups tend to suffer disproportionately negative consequences in natural disasters.

Because of these and other similar findings, the Institute for Urban Research at Morgan State University saw a need for an exploratory examination of 1) the role and potential role of black-owned, black-operated, and black-oriented media in transmitting information on hazard mitigation, disaster preparedness, and recovery processes in predominantly black communities; and 2) the responses of black community members to those transmitted messages. With funds from the National Science Foundation, the Institute identified a recent disaster site, Mobile, Alabama, which was devastated by Hurricane Frederic on September 12, 1979. This site was suited to the purpose of the study because one-fifth of the homes in the

city were damaged, blacks comprise more than 30% of Mobile's population of nearly 400,000, and the city has several black-oriented information media, including two newspapers and two black-owned and/or black-managed radio stations.

It was anticipated that this study would provide some important preliminary information on black mass media in black communities for policy makers concerned with disaster preparedness, warning systems, impact response, and recovery programs. Additionally, we hoped the study would have relevance for black communities elsewhere, and for media reporting of other natural disasters such as tornadoes, blizzards, floods and earthquakes. The data may also have utility for technological disasters, specifically those associated with nuclear power plants, many of which are located near large urban populations.

Theoretical Perspective

The research that does exist on media and disasters has tended to focus on the preimpact phase, particularly on warnings (Mileti, Drabek and Haas, 1975; Carter and Clark, 1977), on the media's impact, and on long-term social responses to hazards and disasters. However, one study has shown that when perception of personal risk is high, individuals are more likely to undertake some adaptive behavior in response to hazard warnings, and that perception of personal risk is generally based on amount, type and credibility of information transmitted by the mass media (Lindell, Perry and Greene, 1980).

Studies on the behavior of blacks during disasters have been limited to one of questionable value, done in 1938, on the adaptability of black families in emergency shelters, and to another rigorous one on the losses

and recovery needs of black families (Moore, 1958). Lindell, Perry and Greene (1980) also made the following observation (p. 1):

Although reviews of the research literature indicate that little systematic data exists regarding minority groups in disasters (White and Haas, 1975, pp. 181-193), the information which is available suggests that minorities experience difficulties in adaptation which differ from those experienced by non-minorities. The probable existence of such difficulties is reflected, in some cases, by differentials in death and injury rates. Red Cross fatality counts indicate that disaster deaths are disproportionately high among ethnic minorities (Trainer and Hutton, 1972, p. 5).

The Lindell, Perry and Greene study, and a subsequent one by Perry, Greene and Mushkatel (1983), are valuable because they indicate that race, language, and frame of reference may have relevance to the believability and interpretation of media-generated disaster messages and the subsequent willingness to pursue the course of action recommended by those messages. It is certainly true that, for a large portion of the black community, the black media represent the only legitimate source of news and public information. As a result, the black media have a unique opportunity to influence the attitudes and behavior of a significantly large segment of the black community, and could play an important role in providing credible messages to persons in need of information regarding natural disasters.

The research reported here was guided by an open system perspective. That is, the black community is treated as a functioning part of the larger social system, an interacting subsystem of the overall urban community. The black media are organizationally linked with national networks and wire services, and, like the white-oriented media, the black media are connected through the requirements of economic survival to commercial interests in the urban community. Thus, the black media can be viewed as organizational units located in the context of larger urban social system units at multiple levels.

A second component of the open system perspective is the notion of system stress (Haas and Drabek, 1973). A condition of stress is said to exist for a social system when the demands placed on a given social unit exceed that unit's capacity to respond. In disasters, the affected social units (individuals, families, organizations, communities) attempt to deal with the rapid escalation in demands placed on them through various methods, including reduction in nonessential services, recruitment of additional help, and cooperation with other social units better able to respond to the emergency.

In the study of organizational responses to disasters, there is a need to consider individual and family responses to such events. The family may also be viewed as a unit that undergoes stress during disasters (Bolin, 1976, 1982; Bolin and Trainer, 1978; Bolin and Bolton, 1983; Drabek and Key, 1983). For reasons to be found in social and political history, black families typically compose a disproportionately large segment of the lower socioeconomic stratum in the United States. In several studies it has been suggested that poor black families are more likely to experience stress than families with greater financial resources (cf. Moore, 1958; National Urban League, 1979; Perry, Greene and Mushkatel, 1983; Bolin, 1983).

In order to cope with the stress of disasters, individuals and families will often modify their internal and/or external behaviors and activities. One of the most typical ways that families cope with stress is through establishment and activation of kinship ties and linkages with community and national organizations and agencies (Drabek **et al.**, 1975; Bolin, 1976). The black media can help families victimized by disaster establish such linkages.

Goals

Because a large portion of the black community views the black media as the only legitimate source of news and public information, the black media could play an important role in providing credible messages to persons in need of information regarding natural disasters. The overarching goal of this study was to foster a greater understanding of the role (or potential role) of the black media in disaster reporting, mitigation, and relief in the black community. To achieve this goal, the following objectives were established:

- 1) To review and analyze existing knowledge of the role of the mass media in reporting predisaster warnings, preparedness, disaster impact, relief, recovery and rehabilitation;
- 2) To review and analyze existing knowledge of the role of black-owned, black-managed, and black-operated mass media organizations in reporting information on natural disasters to the black community;
- 3) To identify gaps and inadequacies in the existing research on natural disasters, highlight information that holds implications for policymaking, and generate hypotheses for future studies;
- 4) To trace and interpret the sequence of actions taken by black media operators in Mobile, Alabama in gathering, selecting, and disseminating information about pre- and postdisaster activities;
- 5) To develop a model reflecting the structure and policies of the black media in reporting disaster-related information before, during and after Hurricane Frederic.
- 6) To assess the ability of the black media to reach large sections of the black community and to influence that community to take courses of action recommended for ensuring safety;
- 7) To describe and assess the current and potential ability of the local black media to educate the black community of Mobile, Alabama, concerning disaster mitigation, relief and recovery programs; and
- 8) To discuss application of the findings to black media at the national level.

Research Plan

The primary data were gathered at the disaster site in Mobile, Alabama. An intensive case study approach was used, involving surveys of 200 black disaster victims and interviews with owners, managers and operators of black-owned and white-owned media, as well as Civil Defense officials and community leaders (see Appendix I). A content analysis was made of randomly selected newspaper reports appearing in both black- and white-oriented newspapers for a period of ten years before and two years after Hurricane Frederic.

The accumulated data were applied to five disaster stages: pre-disaster, warning, impact, immediate postimpact, and relief. During the five stages, the following black media activities were expected:

- 1) Hazard mitigation and preparedness messages
- 2) Warning messages
- 3) News gathering of impact information
- 4) Search and rescue information coordination
- 5) Dissemination of information on relief services.

After determining the accuracy of information disseminated by the black media and whether or not information was received by black residents, we then looked at 1) individual and community preparedness; 2) functional or dysfunctional behavior; and 3) use or disregard of information.

RELATED LITERATURE

This section reviews some basic ideas from family sociology in order to elucidate family responses to disaster warnings and impacts. Also discussed are research on community responses to disaster warnings, as well as studies of evacuation behavior, hazard awareness/risk perception, and mass media in disaster.

Family Response to Disaster Warnings

The family is an important context within which people define and respond to hazards. While social definitions and the mass media affect a person's perception, the immediate family has a greater effect (Galvin and Brommel, 1982). Perceptions and "definitions of the situation" (Meltzer **et al.**, 1975) derive from communication processes within family contexts.

Stress on a family is frequently caused by a lack of financial resources, and it is exacerbated or alleviated by levels of marital stability, position in life cycle and social support networks, among others. The stress also depends on the definition of any situation arrived at by the family (Hill, 1949; Hill and Hansen, 1962; Hansen and Hill, 1964). Failure to arrive at a consensual definition of the situation can heat up marital conflict and disrupt family relationships (LaRossa, 1977; Olson **et al.**, 1979). Successful coping with previous crisis events appears to increase a family's ability to cope with a subsequent crisis (Hill, 1949).

Although a family's adaptation to the stress of disasters and to major changes in its life circumstances depends on communication capabilities, interactive processes, and available resources, it is also affected by its ties with extrafamilial organizations (Bain, 1978; LaRossa, 1977; Littlejohn, 1978; Mitchell, 1969; Parsons, 1943, 1949; Watzlawick **et al.**,

1967). While early sociological research tended to treat the family as an isolated system (Bakke, 1949; Burr, 1973; Hill, 1958), this view has been superseded by one giving greater attention to the external relationships that families establish to deal with stress (Hansen and Johnson, 1979; Lin **et al.**, 1979; McCubbin **et al.**, 1980). These support networks include kinship groups, neighborhoods, and mutual aid groups (Aschenbrenner, 1975; Cantor, 1979; Hill, 1970; Katz, 1970; Litwak and Szeleny, 1969; Martin and Martin, 1978).

The relationships a family has with its kin group are the subject of much sociological research (see Lee, 1980, for a relatively recent review). Most of this work points out the importance of kin relations for American families, whether in or out of crisis. The extensiveness of kin relations and the strength and energy of the ties typically vary by class and ethnicity, with blacks, Hispanics, and certain religious groups maintaining more active relationships than others (Lee, 1980; Staples and Mirande, 1980). Kinship ties can affect a family's definition of a given situation, response to hazards, resource availability in times of need, and stress-managing capacities (Bolin and Bolton, 1983).

Extended exposure to stress has been associated with persistent negative psychosocial impacts both on families and individuals (Bolin, 1982; Glesar **et al.**, 1981). In the case of disasters, extended exposure to stress may result from evacuation, emergency and temporary shelter of victims, residential and neighborhood disruption, disaster-induced unemployment, and related persistent disruptions in social activities (Bolin, 1976; Bolin and Bolton, 1983; Drabek and Key, 1984; Trainer and Bolin, 1976). An additional source of stress is the threat of recurrence or additional disaster.

When a group exhibits a general social and cultural adaptation to persistent or recurring disaster, it is said to have a disaster subculture. A disaster subculture provides families with definitions of the situation that may alert them to the hazardousness of a locale (e.g., Bolin, 1982). Such a subculture also constitutes an institutionalization of previous disaster experience and that, in turn, has been found to affect social responses to future disasters in a number of ways.

There is evidence that certain categories of individuals and families are less susceptible to stress-induced emotional disturbance than others. Those with higher incomes, higher levels of education, higher religiosity scores, and those of advanced age have been found to exhibit fewer disaster-related disturbances (Bolin, 1982; Bolin and Klenow, 1983; Drabek and Key, 1984; Huerta and Horton, 1978). Kinship ties have been found to be important in stress reduction for victims of disasters by some researchers (Wilson, 1962; see also Vosburg, 1971; Bolin, 1983; Cobb, 1976); but others (Houts **et al.**, 1980) find only weak support in their data for such an assertion. Large families appear more vulnerable to stress-related symptoms, perhaps because of the presence of young children.

Community Response to Disaster Warnings

The community and its component organizations, including the mass media, constitute an important frame of reference for individuals and families (Fried, 1966). Communities constitute symbolic objects of orientation (Hunter, 1974; 1975) and form the basis of persons' cognitive maps (Suttles, 1972). These mental maps render the local area familiar, safe, and accessible for residents. Cognitive identity with the locale increases with length of residency and with participation in local organizations (Bell and Newby, 1971; Hunter, 1975).

Communities that have had repeated experience with disaster are better able to maintain an organized response to future impacts, according to Fritz (1961). However, dysfunctional behavior may occur if the new disaster is different from earlier experiences (Parr, 1969). Prior experience may also add familiarity to an event, thus reducing sensitivity and adequacy of social response (McLuckie, 1970).

While the social science literature on community response to natural disasters is lengthy, only a portion sheds light on media-related issues. It has been observed that receipt of a warning of impending disaster is followed by attempts to confirm it ((Mileti, 1974, 1975; Mileti, Drabek and Haas, 1975; Danzig **et al.**, 1958). If the warning is received via the mass media, attempts will be made to confirm it some other way (Drabek, 1969; Drabek and Stephenson, 1971). Warnings that are consistent across several sources are more likely to be believed (Clifford, 1956; Fritz, 1957; Wither, 1962), as are warnings communicated in person (Drabek and Boggs, 1968).

Disaster warning belief is determined by a complex set of factors, including warning sources, warning message content, the number of messages received, and interpretation of environmental evidence of impending impacts. Also important are observations of the actions of others, whether or not the community is cohesive at the time of the warning, previous disaster experience, and proximity to the projected impact area. Finally, demographic characteristics of the recipient, including socioeconomic status, race, age, sex and residence location, have an influence on warning belief (Anderson, 1969; Mileti, 1974; Mileti, Drabek and Haas, 1975).

Evacuation Behavior

Warning belief, in turn, brings about some type of social response, frequently evacuation (Drabek and Boggs, 1968; Perry, Lindell and Greene, 1980). Research on evacuation behavior is voluminous, but only a few of the most pertinent findings are reviewed here. Research generally has found that those nearest the predicted impact area are the most likely to evacuate (Danzig **et al.**, 1958; Perry, Lindell and Greene, 1980). Friedsam (1962), and Moore **et al.** (1963), have shown that the elderly are less likely to evacuate than others, mainly because they feel they have long-term investment in their places and do not want to leave, and also because they frequently are less mobile than others.

The family is the locus of decision making for evacuation (Clifford, 1956), as well as for choosing an evacuation location. Evacuees often exhibit anxieties over the home they left behind (Bates **et al.**, 1963), and these anxieties are compounded if the family did not evacuate as a complete "unit." Having the family intact prior to evacuating, and then evacuating as a unit, is of prime concern to those in disasters (Drabek, 1969). Evacuation and subsequent emergency shelter arrangements can be stressful on family members, particularly if the evacuation results in a lengthy stay in emergency shelters (Instituut Voor Sociaal Onderzoek, 1955). Evacuation may be to the homes of relatives, thus placing victims in a socially supportive context (Loizos, 1977). Other research has indicated that beyond a period of approximately one month, the relationship between a host family and evacuee family, even if they are kin, begins to deteriorate (Bolin, 1982, 1983).

Families typically seek to return to the impact area and to their homes as quickly as possible (Bates **et al.**, 1963; Dacy and Kunreuther,

1969), often before the situation is safe. Only in instances of severe and catastrophic impact do victims show little desire to resettle in their old locales (Erikson, 1976). Leaving a home either by force or choice can produce grief-like reactions in some families (Fried, 1966; Glesar **et al.**, 1981). Disaster research has also shown that those who evacuated unnecessarily in the past are less likely to evacuate in a similar future situation. Evacuation orders perceived as unnecessary, and false warnings, reduce the likelihood of adaptive reactions in future events (Bates **et al.**, 1963).

Hazard Awareness/Risk Perception

The earliest work in hazard and risk perception (and consequent social adjustments) came primarily from geographers (White, 1945; Burton and Kates, 1964; Hewitt and Burton, 1971) and psychologists (Wolfenstein, 1957; Lazarus, 1966). Sociologists (Wallace, 1956; Fritz and Mathewson, 1957; Mack and Baker, 1961) and anthropologists (Schneider, 1957; Anderson, 1968) also provided additional insights by focusing on social and cultural adjustments to hazards.

The concept of perception involves a social psychological dimension and, typically, a sociocultural one as well. As Allport notes, the use of the term

. . . perception in social disciplines has . . . shifted from mere object awareness, physical world relations . . . to a cognitive and perhaps even phenomenological **modus operandi** for collective activities . . . and for concepts of self and society (1955, p. 368).

Given this broad conceptualization, it is appropriate to speak of risk perception for all social levels, from the individual to the community to the entire society. It is, of course, necessary to recognize the complex interdependency of individuals, groups, and societal perceptions, and the

interactions among those levels (Miller, 1964). It has been common to identify the characteristics of an environmental threat as affecting perceptions. Relevant dimensions include the perceiver's distance from the hazard (Manderthaler **et al.**, 1978), as well as notions held about the "speed of onset, scope, intensity, duration, frequency temporal spacing, causal mechanisms and predictability" (Mileti, Drabek and Haas, 1975, p. 23; see also Barton, 1969; Dynes, 1970a).

The reality of a hazard often has little to do with how it is perceived at various social levels (Van Arsdol, 1964) or how people respond to it (Mileti, 1980). The perception of hazard is further complicated when the objective nature of the threat is in dispute or uncertain (Grosser, 1964) or when the media carries inaccuracies (Scanlon **et al.**, 1980); however, awareness of a hazard may also be a function of the amount of media attention (Christensen and Ruch, 1978; McCombs and Shaw, 1972; Molotch, 1970; Needham and Nelson, 1977). Natural hazards literature indicates a tendency for individuals to underestimate the hazardousness of a situation (Burton **et al.**, 1965; Mileti, 1980; White **et al.**, 1958).

In situations where persons have previous experience with a hazard, their perceptions have been found to vary as to the nature of future threat. White (1945) suggests, in terms of flooding, that persons assume worst case events will not repeat themselves, although Kates (1962) has reported an opposite tendency. Burton **et al.** (1965) found that persons living in coastal areas subject to hurricanes tended to view the storms as repetitive. Bolin (1982) found continued psychological stress in tornado victims with the onset of tornado season the following year.

Kates has suggested (1962, p. 140) that people are "prisoners of experience" and tend to perceive hazards based on notions of the future as

past. Likewise, Janis (1951) indicates that near misses are important in affecting perceptions of risk. In situations where persons do not have direct experience with physical impacts of a hazard, such as an earthquake, there is a tendency to minimize the expected damage or to interpret the situation as nonhazardous (Jackson, 1981). This is suggested to be a psychological strategy to reduce the dissonance involved in placing oneself at risk.

The control a person feels he or she has over a situation may affect perception of risk (Wortman, 1976). According to Holdren (1982), individuals are more likely to tolerate a hazard if they feel they can control the situation. Sims and Bauman (1972) utilize the idea of locus of control in explaining coping with threatening situations. Some individuals are inclined to believe in the efficacy of personal action in dealing with risky situations (internal locus of control), while others, particularly those from fundamentalist religions, tend to feel that the situation is in God's hands and hence there is little to do in response (external locus of control) (Sims and Bauman, 1972). The notion of control has implications for social adjustments made to hazardous situations, a subject to be considered below. When an individual's sense of control is threatened, negative psychological and emotional states can follow (Carver, 1966). Milburn (1977), based on experimental data, argues that **control** of a situation and not the **size of a threat** is the key in coping responses to threatening situations.

One of the central contextual factors affecting the process of risk assessment is family and kinship. Lucas (1966, 1969) examined variation in perception of ambiguous stimuli in a coal mining community subject to continuous threat (of accident in the mine). Lucas found that expert

knowledge of the hazard did not affect the perception of hazard (1966, p. 234), but rather primary role (family) relationships did. Persons tended to view the risk as real if they felt kin were at risk.

When the unit of analysis shifts to the level of community, much of the available literature is directed towards the adjustments that communities make regarding perceived hazards (Dynes, 1970b; Hutton and Mileti, 1979; Mileti, 1980). Response to hazard at the level of community is typically problematic due to the propensity to deny risk (White and Haas, 1975; Mileti, 1980; Mileti, Hutton and Sorensen, 1981). For some hazards, this is reinforced by the tendency of the mass media to underplay potential hazards (Turner, 1980), although the media can also create community-level anxiety by promoting rumors (Danzig **et al.**, 1958). In situations where the credibility of official information is questioned, rumor is a likely outcome.

According to Mileti (1980), the accuracy of risk perception improves with access to scientific information (see also Kunreuther, 1978). Slovic **et al.** (1974) argue that in adjusting to hazards, a model of bounded rationality pertains. Uncertainties, misperceptions of risk, crisis orientations, intuitions, and the inability to integrate multiple sources of information all conspire to limit the role of rationality in social adjustments to hazards (pp. 188-193; see also Hansson **et al.**, 1979).

Disasters and the Mass Media

Interest in the mass media and natural disasters was highlighted by the National Academy of Sciences/National Research Council study, Disasters and the Mass Media (NAS, 1980). Articles in that volume by Kreimer and Kreps summarize central issues and describe existing research. The mass media are part of a complex mix of communication in disasters. They are

often accused of reporting inaccuracies during periods of crisis (Stallings, 1971; Erickson **et al.**, 1976); the emphasis on speedy transmission is a major cause of the errors, particularly in the broadcast media (Scanlon, **et al.**, 1980). However, Holton (1985) believes that the pervasive entry of television into the American home has fostered a total dependence on television as the ultimate source of reliable information and guidance during a disaster.

The media have a potential role in hazard awareness, warning transmission, and provision of evacuation and postimpact information for short- and long-term recovery. Needham and Nelson (1977) examined the role of local newspapers in covering erosion and flood hazard, and found coverage to be overly dramatic. However, when Rogers and Sood (1981) studied the role of media messages in the aftermath of the hurricane that devastated Dominica in 1979, they learned that a media organization's understanding of its audience plays a significant role in the quantity and quality of the disaster information it chooses to report. This finding has bearing on research by Wilkins (1985), who noted that the mass media tend to cover natural hazards in a fashion similar to coverage of any other news event.

Christensen and Ruch (1978) compared the effectiveness of printed brochures, radio, and television for hurricane awareness, and found that both printed brochures and television are more effective than radio. Listeners held inaccurate views due to poor recall of radio public information announcements. This reflects Weaver's observation that printed media and television can exploit the visual component (1975; see also Turner, 1980). Regulaska (1982) asserted that television, the print media, and other visual forms of information (as well as radio) can help improve public awareness of the adverse effects of natural disasters. However,

radio appears to play the major role in providing information **during** an actual disaster (Baldwin, 1980).

Others have examined the gatekeeping function of media coverage of disasters (Waxman, 1973) and the reporting policies of radio and television organizations (Kueneman and Wright, 1975). Larson (1980) found that newspapers gather more information than either television or radio. However, the broadcast media have speed and accessibility in their favor. As Larson suggested, radio can broadcast the most news, while both television and radio can alter programming more easily than print. In a 1985 study, Scanlon **et al.** proposed that, because their behavior during a disaster is predictable, information media could be integrated into a disaster plan in order to be used more efficiently during an actual disaster.

Much of the research on the media and natural disasters has concentrated on the warning phase (e.g., Adams, 1965; Anderson, 1969; Mileti, 1974). Janis and Mann (1977) have examined the role of information in emergency decision making. Another major study focused on public response to hurricane warnings delivered by the broadcast media (Carter **et al.**, 1979; Clark and Carter, 1979). Nigg (1982), and Turner, Nigg and Heller Paz (1986) investigated how the media's treatment of several earthquake-related issues (the Palmdale Bulge, for instance) influenced the response of government agencies, public interest organizations, and households in southern California.

Hartsough and Mileti (1985) determined that risk perceptions are strongly shaped by the varied dimensions of the actual disaster warnings. Furthermore, they hold that in reporting on a disaster, the media are not simply reporting what they know as unbiased observers; they are anticipating how disaster information will be received by the public.

Hartsough and Mileti further assert that any analysis of the influence of the media on the psychological effects of disaster must attempt to address these interdependent forces.

In terms of postimpact reporting, several studies should be noted. Hannegan (1976) studied postdisaster newspaper reporting, while Wenger **et al.** (1975) looked at how myths regarding natural disasters may be derived from media coverage. Paredes (1978) found that respondents thought that the media did a good job during hurricane disasters in Florida.

In two areas, there is little research: 1) the role of media in recovery (cf. Taylor, 1978), and 2) the effects of the media on human behavior in disaster contexts. In the case of the latter, there are difficult methodological problems in attempting to isolate media effects from other behavioral determinants of social action (e.g., previous experience, personal communication, environmental cues, and observation of others' behavior).

We will now examine the families stricken by Hurricane Frederic and their media use in all phases of the disaster, from early warnings through postimpact relief, rehabilitation, and recovery.

THE FAMILY SURVEY

One goal of the family survey was to gather data on the pre- and post-impact activities of a sample of black families affected by Hurricane Frederic in the greater Mobile area. These data provide a picture of the actions of families in a high-risk situation, and the ways in which they dealt with the threat, impact, and aftermath of the devastating hurricane. One of our primary concerns is to what extent the victims utilized the mass media and, in particular, the black media to gather information that informed their subsequent actions.

Methods

We restricted our survey to black families because a true random sample of victims of Hurricane Frederic was difficult, if not impossible, to obtain. The task of generating a random sampling frame (cf. Mileti, 1974) for such disaster victims was beyond the available time and resources of the research staff. Because a complete enumeration of all individuals affected by the storm was impossible, we restricted the sampling to stricken areas which, according to census tracts, were predominantly black (75% or more). We also used local informants in the city planning office to confirm areas in which there was significant damage as well as a predominantly black population. Given the patterns of racially segregated neighborhoods in Mobile and the distribution of impacts of the storm and subsequent flooding, this left us with five areas within Mobile and the adjacent community of Pritchard from which to draw the sample.

Each area was delineated on a large-scale map, and the number of housing units in each sampling zone were counted. After determining the approximate number of units in each area, ratios were calculated to decide

how many victims from each area would be selected for interviewing. Thus, the sample size for each area was proportional to the total number of housing units in the area (see Babbie, 1978). Once the desired sample size was determined, blocks in each area were enumerated and randomly selected. After a sample of blocks from each area was selected, all housing units on each block were listed and another sample drawn designating the houses/apartments from which interviews were to be obtained.

The actual unit of analysis in our study was the family and not the household per se. That is, one respondent per household was selected for interviewing and that respondent--an adult head-of-family or his/her spouse--served as the informant for the activities of the family before, during and after the impact of Hurricane Frederic. The interviewers determined if the home had indeed been damaged by Hurricane Frederic and if the occupants had been living there at the time the hurricane struck. If the home had not been damaged or the person contacted had not been living there at the time of the hurricane, interviewers were instructed to screen homes close by until one was found that met these two criteria.

A sample size of 200 families was dictated by budgetary constraints; however, this was adequate for basic statistical analysis and was large enough to be representative of black victims residing in Mobile. All discussion and analyses that follow are based on this sample of 200 black families.

Interviewing took place in May of 1982, as did related field work in Mobile described elsewhere in this report. For the family survey, a local consultant familiar with the black community in Mobile was retained. He aided the field director in the recruitment of interviewers familiar with interview techniques as well as with the local black community. Black

interviewers were used because it was felt that they would have greater success in gaining access to the black families in the sample.

Interviewers were trained in sessions directed by the consultant and the field director. The field director reviewed each returned interview for completeness before issuing new addresses for more interviewing. The survey was completed in approximately two weeks. Following completion of the family survey, a codebook was developed. Coding was done by the field director to insure consistency.

Due to the exploratory nature of the research, the interview schedules obtained information on a wide variety of subjects: demographics and general background information on victims; media use patterns; previous disaster experience; receipt of warning information for Hurricane Frederic; evacuation and other disaster response behavior; impact of the hurricane; aid-seeking activities; and related general attitudinal information.

The Demographic Profile

Most respondents were long-time residents of the Southeast. Victims had lived in Mobile an average of 21 years, and averaged 14 years in the same home prior to Hurricane Frederic. Only 4% of the respondents changed their residence after the hurricane, indicating a strong commitment to home and neighborhood. Of those interviewed, 66% owned their own home, while 22% rented a house. The remaining 12% lived in apartments. Table 1 presents data on household size for the respondents.

Of those interviewed, a total of 48% were married. Nineteen percent were divorced or separated, while 13% were single. Given the age of the sample, it is not surprising that 17% were widowed.

Most respondents had incomes falling below the national median. At the time of the interviews, 57% (n=114) (numbers appearing in parentheses

refer to the actual number of respondents in the particular category under discussion) were below the poverty line (\$7,500), while only 13% (n=26) reported income in excess of \$15,000 yearly. Table 3 presents a breakdown by occupation of the chief wage-earners.

TABLE 1

HOUSEHOLD SIZE

<u>Number in Household</u>	<u>N</u>	<u>%</u>
1	15	7
2	35	25
3	40	20
4	0	0
5 or more	72	29
	<u>200</u>	<u>100%</u>

The average age of respondents was considerably higher than the national average for heads of households.

TABLE 2

AGES OF RESPONDENTS

<u>Age Range</u>	<u>N</u>	<u>%</u>
18 - 25	16	8
26 - 39	53	26
40 - 59	79	40
60 and older	52	26
	<u>200</u>	<u>100%</u>

TABLE 3

OCCUPATION OF CHIEF WAGE-EARNER

<u>Occupation</u>	<u>N</u>	<u>%</u>
Retired	39	19
Unemployed	63	31
Unskilled service worker	12	6
Laborer	27	13
Operative	4	2
Craftsperson	13	6
Skilled service worker	22	11
Sales	4	2
Managers and professionals	16	7
	200	100%

The occupational distribution is reflected in the educational attainment of the respondents. Of those interviewed, 39% had not completed high school, while 34% had received a high school diploma. Another 13% had graduated from college with a B.A. or higher degree.

Victim Families and the Media

We have defined black media as media owned and operated by members of the black community and/or whose programming is focused toward the black community. The primary concern of the research reported here has been to determine if the black media played a special role in any phase of Hurricane Frederic. However, due to the limited size of the black media in Mobile, we have also concerned ourselves with all media operations in Mobile and the patterns of use of those media reported by our respondents.

With reference to the print media, 43% of the respondents did not have a newspaper subscription. Of those who did subscribe, 88% subscribed only to the daily Press Register (the "non-black" newspaper), while the remaining 12% subscribed to the weekly Mobile Beacon or The Inner City News (black-owned and focused) or to both a daily and a weekly. Because the Beacon and The News are not dailies, the low subscriber rates are not noteworthy.

In terms of access to the electronic media, only two respondents had no working television in their household. Forty percent of those interviewed had one television, while 54% had two or three sets available. In addition to the televisions, 40% also had one radio, while another 57% had two or more working radios in their households. Additionally, all 200 respondents had access to a radio in their automobile. Respondents indicated that they listened to radio an average of 4.9 hours per day. Average daily viewing time for television was 6.4 hours. Overall, 99% of the sample had televisions, while 97% had household radios. These figures compare with 97.9% television and 98.6% radio ownership rates for the United States as a whole (Larson, 1980).

Warnings

As described in the literature review in the previous section, one factor pertinent to warnings and warning response is previous disaster experience. A relatively large number of respondents had had direct experience with another natural disaster prior to Hurricane Frederic (42.5%). The nature of these previous experiences included: floods (30.6% of those with prior disaster experience); hurricanes (42.4%); or a combination of several disaster agents (21.2%). Ninety-one percent of those with prior disaster experience had received warnings before that disaster. Those

warnings had been via television, radio, or face-to-face communication. Sirens were also mentioned by 60%. Eighteen percent had received warnings about potential disasters that never happened. Most indicated that these false warnings had been for hurricanes that had veered away from the predicted landfall. Of those receiving false warnings, 37% said such incorrect warnings made them less likely to believe future warning messages.

Concerning warnings about Hurricane Frederic, all 200 respondents indicated that they had received at least one warning prior to the storm's impact. Respondents reported receiving an average total of 15 warnings from all sources. Fifty-six percent received their first warning via television, while 31.5% first heard about the oncoming storm via radio. Fewer than 20% of those interviewed received their first warning from personal sources (neighbors, relatives, friends). As might be expected, none reported having received their first warning from a newspaper.

Respondents were asked how many hours before the actual impact of Hurricane Frederic they received their first warning message. Virtually all respondents had from 12 to 24 hours of lead time between their first warning and the storm's onset. About half of those interviewed relied on a combination of media sources to keep them informed of the storm's progress. Another 24% used only television and 10% used only radio. However, 65% indicated that the warning source they tended to believe most was television. Most of the remainder reported that they most believed radio messages. Only 38.5% of the respondents attempted to confirm the warnings by obtaining additional information from other sources. This is not surprising given the number of warning messages received, even if all warnings were from a single source.

An additional factor in the failure to seek specific confirmation of warning messages has to do with perceived risk. A majority of respondents were "fairly certain" to "very certain" that Hurricane Frederic would hit Mobile after receiving their first warning (61.5%). Additionally, when asked how certain they were that Frederic would hit **their neighborhood**, 67% said they believed it would. Of these, 40% were "very certain" that their neighborhood would be damaged by the storm. Moreover, prior to impact, a majority of respondents (73%) felt personally at risk. Most indicated they felt "moderate" to "extreme" personal danger.

To better understand influences on warning receipt, belief, confirmation, and risk perception in more depth, cross tabulations among key variables were performed. Findings are offered as hypotheses and only those supported at a .05 probability level using a Chi-square test of association have been included.

The number of warning messages received via the mass media was positively correlated to several factors. The more radios available to a respondent, the more warnings received. Those respondents at the highest education levels (four or more years of college) received more warnings than those with lower education levels. Those respondents who subscribed to a newspaper received more warning messages than did those who did not; however, those messages were not received from newspapers. The last relationship disappears when we control for education. This would seem to indicate that those with higher levels of education actively sought out warnings and disaster-related information, or listened to news broadcasts more often.

Both income and education were positively correlated to warning confirmation attempts: respondents of higher socioeconomic status were more

likely to attempt to confirm warnings. Previous disaster experience was also strongly correlated to warning confirmation behavior.

It is interesting to note a negative relationship between family size and warning confirmation. Those with larger families were less likely to seek confirmatory evidence. It has been noted in previous studies that, because large families feel vulnerable, they are more likely to believe a warning without trying to confirm it through another medium (Bolin, 1982). Those with large families (five or more members) were also more likely to rely on radio than on television as the primary source of warning information.

Respondents with previous disaster experience tended to feel more sense of personal risk at the onset of Hurricane Frederic than did those without such experience. Similarly, they were more likely to be certain that Hurricane Frederic would strike their neighborhood, an indicator of the sensitizing effect of prior disaster experience. A sense of personal risk was also found to be positively associated with the number of warning messages received. Respondents who received 15 or more warnings almost uniformly reported having felt "extreme danger" prior to the storm's impact. Also, those who had the longest lead time (warning 20 or more hours prior to impact) were the most likely to report feeling at personal risk from the impending storm. The longer warning period provided time to gather additional information and, perhaps, to reflect on the storm's potential impact.

Age had no effect on the number of warnings received, although the elderly were more likely to have received early warnings than were younger respondents: 36.5% received a warning at least 24 hours in advance of impact, compared to 18.9% of the younger respondents. Elderly respondents

were somewhat more likely to have received their first warning via radio (37.9%, compared to 26.7% of younger respondents). Only 9.8% of the elderly heard about Hurricane Frederic from a source other than the mass media (for instance, telephone or face-to-face contact). In comparison, 23.7% of the younger respondents received their first warning from nonmedia sources. We surmise that this difference is due to the greater social isolation of the elderly. Television ranked as the most believable source of warnings for all age groups. Only 27.5% of the elderly and 21.2% of all others ranked radio as most believable. The differences across age groups are not statistically significant. The data suggest a possible relationship between age and warning confirmation. Some 41% of the younger respondents attempted to confirm the warnings, while 31% of the elderly sought confirmation (not significant at the .05 level). Thus, while in no case did a majority attempt to confirm a warning, it would appear that the elderly were even less likely to do so. There appears to be no difference between age groups regarding certainty that Hurricane Frederic would actually strike the respondent's area of the city. After receiving initial warning, a majority of respondents were "fairly" to "very certain" that their area would be hit by the hurricane.

Warning Response

After receiving warnings, respondents pursued several courses of action. Some evacuated, others prepared to weather the storm at home, and a few changed their behavior very little, if at all.

Of the 200 victims of Hurricane Frederic we surveyed, only 63 (31.5%) evacuated their homes. Time away from home lasted anywhere from 24 hours to three weeks. The majority of evacuees (77.8%) were able to return to their homes after a one-day absence. Of those who did evacuate, 39.7% went

to the homes of relatives. Virtually all other evacuees went to Red Cross shelters.

A total of 69% of the respondents received messages about evacuation via the mass media. Most who received such messages recalled that they included information as to where emergency shelters were located. However, as noted above, a clear majority did not leave their homes. When respondents were asked why they did not choose to leave their homes, the most common response was that they "felt safer in their own home" (74%, n=102). Other justifications for not evacuating included:

- 1) Belief that "God will protect me" (7%, n=10)
- 2) Did not believe the storm warnings (6%, n=8)
- 3) Unable to evacuate because could not locate all family members (5%, n=7)
- 4) Fear of looting (3%, n=4)
- 5) Inadequate time to evacuate prior to impact (3%, n=4)
- 6) No place to evacuate to (2%, n=2)

Respondents were also asked about the evacuation behavior of neighbors and kin. Thirty-five percent claimed their neighbors had evacuated prior to impact, while 39% believed they had not. The remainder were not sure. Regarding relatives, 39.5% claimed they had relatives who did evacuate, while most of the remainder said their relatives did not leave their homes. Sixty-seven percent of the respondents discussed the impending storm with neighbors and relatives, either by telephone, face-to-face, or both. However, most of those persons (73%) said the discussions did not influence their response to evacuation messages. Of those saying the discussions **did** influence their behavior, 51% said the discussion made them decide to stay in their homes.

For those receiving evacuation messages, the information was received almost exclusively via the broadcast media. Of those evacuating, 83% relied on both television and radio for evacuation information. Nine respondents indicated that they received evacuation information directly (face-to-face) from the police.

Fifty-eight percent of the total sample said they followed advice given out over the broadcast media on how to prepare for the storm. More than three-fourths of those who evacuated secured their homes before leaving for other shelter. Most of those who did not evacuate also prepared their residence for the storm (72.3%, n=99). The primary modes of preparation included taping and/or boarding windows, stockpiling food and water, and provisioning the home with candles, batteries, and radios.

When asked to consider all the warning and evacuation messages received, the majority of respondents (60%) claimed that television provided the most believable information. Twenty-nine percent felt that radio was most believable, and only one respondent felt that the newspaper was most believable.

The sample was evenly split as to what factor made a message believable. General content of the message was mentioned by 23.5%, 26.5% said it was the actual delivery (tone, sense of urgency), 20% found the specificity of the message to be most important, and 25% said that the visual aspects of television made those warning and evacuation messages most believable. When asked to consider the storm's actual impact and damage in retrospect, 60% of respondents again cited television as the most accurate provider of information. The remainder felt that radio had been the most accurate.

Respondents were asked if there were any personal characteristics of television reporters that might incline them to believe the reporters'

warnings. Only 1% cited race, while 4.5% cited age. One-fourth said personal characteristics of the reporter were not important. Most respondents (68.5%) cited the content of the message as the characteristic contributing most to believability.

Respondents agreed on what made warning/evacuation messages most believable--the visual component (weather maps, pictures of destruction). One-half of the respondents said they had seen television films of Hurricane Frederic prior to its impact on Mobile. Of those respondents, 69% claimed that the films influenced their subsequent actions. Additionally, 72.5% said they had watched weather programs regarding Hurricane Frederic (as opposed to films of the actual storm) and that those programs had influenced their decisions about the storm.

In order to see if demographic characteristics helped to explain differences in evacuation behavior, a number of comparisons were run. Evacuees and nonevacuations showed no significant differences in terms of family size, age, occupation, education, income, marital status, or religious affiliation. Gender is the only variable where any meaningful differences appear: women were slightly more likely to evacuate their homes than were men.

Previous disaster experience was strongly related to evacuation behavior. Those with previous experience were not only more likely to evacuate, but were also more likely to follow directions given out via radio and television. Respondents with higher socioeconomic status (as measured by education, occupation and income) were also more likely to follow the advice broadcast by the media. The greater the personal danger perceived by the respondent, the more likely he or she was to evacuate. However,

since most respondents did not evacuate, in spite of feelings of personal danger, they apparently felt more secure in their own homes.

The elderly were no more likely to evacuate than were other age groups. Elderly people seemed less likely to recall having received evacuation messages than younger respondents (38.5% of the elderly, compared to 28.4% of others did not recall receiving any evacuation messages). The elderly who did evacuate were less likely to use public shelters than were younger evacuees. Only 43% (n=6) of them went to public shelters, while 63% of the younger evacuees (n=31) used public facilities. Elderly people were more inclined to go to the homes of relatives rather than to public shelters.

No significant age differences were found regarding sources of evacuation information, which media were considered best for evacuation information, or what made the evacuation messages most believable.

Impact and Aftermath

Given the scope and severity of Hurricane Frederic and the fact that it was accompanied by tornadoes, it is not surprising that all respondents reported some damage to their homes. Tornadoes embedded in the hurricane caused damage to the homes of 17.5% (n=35) of the respondents. Overall, 40% reported slight damage, 29% had moderate damage, and the remaining 31% said their homes were either severely damaged or destroyed.

Of these victims, 67% did not use governmental aid programs to help pay the costs of repair. Many (61.5%) had their homes insured against storms. However, only 60% of those with insurance said that their insurance settlement was adequate to cover their losses. Those whose insurance settlement was inadequate made up the difference with their own savings (58%, n=34), or by borrowing (14%, n=8). Ten percent reported that they

had not been able to make up the difference. In fact, one-fourth of the victims said that three years after impact, they were not yet over their financial losses.

Virtually none of the respondents indicated that they or any of their family members were physically injured during the storm. However, 21% said that either they or some member of their family were emotionally upset by the storm experience. Of these cases, 19% considered the disturbance serious enough to seek counseling. Within this group, information about the availability of storm-related psychological counseling was derived primarily from a church or from radio spots. Over the entire sample, only 11.5% of the respondents were aware of programs designed to aid victims with emotional problems. Of these, most (56%) found out about the programs from radio public service announcements, 24% from television, and the remainder through informal, nonmedia sources.

Looking more specifically at the material aid received by victims, we found that 14.5% (n=24) made use of the Red Cross (food, clothing, household goods) and church groups (food, clothing, ice). Another 59% received aid from the federal government, most of it in the form of food stamps, with a few small housing (2) and cash grants (n=6).

Respondents received information about these programs from a number of sources. Information on Red Cross programs came primarily from the radio, word-of-mouth, or newspapers. Those who received aid from federal programs said that radio had been their primary source of information, with a few relying on newspapers. At the time of the survey there were no disaster assistance centers, per se, and hence no single source of information on all available aid programs.

The shift from television during the preimpact phase to radio and newspapers during the postimpact phase reflects the storm's effect on Mobile. Power outages, downed antennas, and evacuation to public shelters all conspired to make portable radios and emergency edition newspapers more available sources of information in the immediate aftermath of the storm.

Not surprisingly, victims with the greatest levels of damage to their property were most likely to receive federal aid (57.4% of those with severe losses, compared to 21.1% of those with slight damage). However, the greater the level of damage, the more likely it was that the victim had not recovered from financial loss three years postimpact. The incidence of emotional disturbance among victims also correlated directly with impact severity and property damage.

Those with the highest levels of property damage were also the most likely to say they would react differently in future disasters. Of these, almost all said they would more carefully follow media advice for securing their homes, and 20% said they would obtain or increase home insurance coverage.

The elderly were somewhat more likely to report severe damage to their homes than were younger respondents. The elderly were also less likely to use federal programs than were younger victims (42.3% vs. 64.9%). This should be viewed in light of the finding that the elderly were more likely to have insurance coverage. Age was also related to whether respondents thought they would react differently in future disasters, with younger victims being the most likely to say they would react differently.

Victims and the Black Media

Since there are no black-owned or black-focused television stations in Mobile, no general conclusions may be drawn regarding its role. However,

it is evident that it would have had no special role in the warning phase since all media serve the same function during that phase: the dissemination of clear, concise, accurate information regarding the impending disaster and what steps should be taken to mitigate its impact. Virtually none of our respondents said that the race of television or radio reporters had any bearing on the believability of the warnings they received.

Shifting to the postimpact phase, we documented the increasing use of radio and newspapers as sources of information. In the relief and recovery phases, black-focused media have the potential of serving the specific needs of the black community by focusing on the particular needs of the community. Among the survey respondents, the two black-owned radio stations in Mobile had higher listenership than did non-black stations (28% of the total sample relied on a black-owned station). The black media, at least the radio, do reach the black community in Mobile; however, whatever special services black media might provide to black disaster victims will vary with each disaster site and the extent to which the postimpact needs of black victims differ from the needs of the victim population in general.

THE MEDIA INTERVIEWS AND NEWSPAPER RECORDS

In the media interviews, our goal was to learn about media managers' perceptions of the role of their organizations in disaster reporting and mitigation. We had also hoped to perform content analyses of radio logs and newspaper files. Radio logs were not available from the stations at which interviews were conducted, but we were able to review the files of three local newspapers for several years preceding, and for two years following, Hurricane Frederic.

Methods

We developed a detailed roster of interview questions for both black and white media organizations in Mobile, Alabama. The research staff contacted three newspaper publishers and four radio station managers in Mobile and scheduled appointments to conduct open-ended interviews. The interviews ranged from one to two hours in length and were conducted over a period of two weeks.

In addition to the in-depth interviews with print and electronic media personnel, staff also spoke with a representative from the Mobile County Civil Defense Headquarters. This person had served as the Communications and Warning Officer during Hurricane Frederic. A one-hour video documentary on the hurricane, prepared by WAKA-TV and titled "The Winds of Destruction," was also reviewed. The documentary provided an account of Frederic as it developed from a tropical storm into one of the most devastating hurricanes to hit the Gulf Coast in recent years.

Table 4 provides a list of the media organizations and the representatives we interviewed.

TABLE 4

LIST OF MEDIA SOURCES INTERVIEWED IN MOBILE, ALABAMA

Newspapers* INNER CITY NEWS

Established: 1976
 Frequency: Weekly (Saturday)
 Circulation: 8,000
 Contact: Charles Porter, Publisher

* MOBILE BEACON & ALABAMA CITIZEN

Established: 1954
 Frequency: Weekly (Saturday)
 Circulation: 5,862
 Contact: Lencie Thomas, Publisher and Owner

PRESS REGISTER

Established: 1813
 Frequency: Daily
 Circulation: 96,598
 Contacts: Fallon Trotter, Executive Editor
 W. J. Hearin, Publisher

Radio Stations

WABB RADIO

Broadcast Schedule: 24 hours
 Contact: Bernard Dittman, Station Manager

* WBLX RADIO

Broadcast Schedule: 24 hours
 Contact: Larry Williams, Station Manager

* WGOK RADIO

Broadcast Schedule: 8:00 am - 5:00 pm
 Contact: Irene Ware, Station Manager

WKRG RADIO

Broadcast Schedule: 24 hours
 Contact: Charles Moss, Program Director

Interview Questions and Responses

"Do black media have continuous, timely, and reliable access to sources of information on natural disasters?"

The black-owned and/or black-managed media in Mobile do have adequate access to the primary information sources on natural disasters. This access includes the National Weather Service, national and international wire services, and the Mobile County Civil Defense Headquarters. Larry Williams, Station Manager at WBLX radio stated:

Of course we have an emergency news service and we were alerted that the hurricane [Frederic] perhaps would hit this area. . . . Aside from the news service and the emergency broadcast system, we had our own telephone lines and we also had special receivers to the Weather Service.

One of the predominantly black-owned newspapers published in Mobile, The Beacon, indicated that sources for both pre- and posthurricane news were plentiful. Lencie Thomas, owner and publisher, said,

Everybody sent us news releases. We had no problem. . . . All news sources would see that we had whatever they were doing. . . . They would get it to us.

The critical issue in Mobile appears to be the capability of the black media to adequately disseminate information during an emergency, rather than access to information regarding imminent natural disaster. During Hurricane Frederic, the direct telephone line from Mobile County Civil Defense Headquarters to WGOK radio functioned properly. However, due to the extensive damage to the station's facilities and broadcasting equipment and the lack of a backup electricity generator, the station was unable to transmit the disaster messages and weather information it was receiving during the height of the storm.

Weekly newspapers like The Beacon or The Inner City News are not timely in an emergency. Harry Palmer, Warning Officer for Mobile County Civil Defense, stated,

The newspapers were really not of any value to us immediately after the storm because they couldn't print them, and besides that, the delay in print media diminishes its effectiveness in any emergency.

"What policies do black media officials have in relation to their role in disaster/recovery information flow?"

The policies of black media officials reflected a concern for the safety and welfare of their staffs, as well as a genuine commitment to providing the public with pre- and postdisaster information and assistance. Key staff of both print and radio media were given emergency briefings and special assignments during the emergency. The staff assignments were based on safety, protection of life and property, and overall public service. Lencie Thomas of The Beacon stated:

The main thing is for everybody to get out [leave the newspaper building] and get home and get situated if you can.

That is, once everything humanly possible was done to inform the general public of the emergency, the priority was for the safety of the staff and their families.

The manager of WBLX radio, Larry Williams, stated:

Our basic plan is to have everybody on call . . . to come into the station and be prepared to work. that plan is in effect until whatever emergency that occurs is over.

Irene Ware of WGOK, the other black-managed radio station in Mobile, reported:

A day or two before Hurricane Frederic hit, we prepared by getting our program logs ready ahead of time. . . . We had food at the station for the announcers and program director on duty.

Although they lacked formal, written emergency plans and/or policies regarding natural disaster reporting, the media officials coordinated their efforts with Mobile County Civil Defense and other news sources and emergency service agencies to inform the public of predisaster procedures and postdisaster recovery resources.

"How similar or dissimilar are black media and white media in their responses to the transmitting of disaster/recovery information?"

The disaster reporting policies and techniques of black and white media are similar. However, on an operational level, facilities, buildings, location, equipment, staff and financial resources affected the capability of both the black and the white media to transmit disaster/recovery information regarding Hurricane Frederic.

The black media, both print and electronic, were particularly handicapped in several ways. For example, WGOK radio is located in a high-risk area that is prone to flooding. The station's building and equipment was heavily damaged during the storm. The station manager recounted:

We are in a flood-prone area. It floods here and the powerful winds [of Hurricane Frederic] caused a lot of damage to our equipment. . . . In fact, we have just gotten the front of the building back intact [two years later]. All of the bricks on the top front fell down. and it is strange how insurance will only cover so much. Because of that, it took us a while to really get back to normal. Then, right after Frederic, we had another flood. The flooding messed up the floors and everything else. . . . As I said, the insurance paid off according to the value of something or the life of something. This station has been in business for 25 years, and we really didn't get compensated by the insurance for what it took to replace equipment. We lost a lot.

As previously noted, WGOK did not have an emergency generator for electrical power during the hurricane. To date, the station has no plans to purchase one. The station manager stated that in the event of future storms such as Frederic, WGOK would strive to stay on the air, but she

reasoned that because of high winds, severe flooding and potential loss of electrical power, they would probably evacuate until it was safe to resume operation.

The two black radio stations, WBLX and WGOK, can be contrasted in several ways. WBLX is not located in a high-risk area, its facilities are more modern and the building is structurally sound. In fact, the station manager of WBLX reported:

We didn't have any damage at all. The damage that we did have, I would say it was just minor. I might point out that we were off the air intermittently for three or four days [after the hurricane] for repairs and putting in new lines. . . . We've bought the equipment that we felt would be necessary to keep us aware of what's going on in our control rooms as far as weather conditions . . . [and] the right kind of back-up equipment to keep us functioning, such as generators, emergency light systems and things like that.

Mobile's two major black newspapers, The Beacon and The Inner City News, also had their operations limited by Hurricane Frederic. The roof of the building that housed The Beacon was damaged extensively, and the newspaper was also affected by the city-wide loss of electrical power. After the storm, the publisher of the newspaper had to purchase a generator to resume operation. Thomas related the following information during the interview:

We just took the van and pulled that van to the back door and hooked it [the generator] up to our machines, and that's the way we operated. I would carry it home at night in the van. So, that's the way we did it. . . . A lot of folks thought we wouldn't have it [the newspaper] 'cause they were amazed when they saw the paper on the streets that next week.

The Inner City News reported that although its offices sustained only minor damage (to the roof), its operations were altered due to the inaccessibility of the streets (caused by uprooted trees and downed power lines) throughout greater Mobile. However, the publisher emphasized that, "Fortunately, we were the first local newspaper to hit the streets after

Hurricane Frederic. The Mobile Press Register didn't publish and distribute until Saturday"--which was three days after the storm.

"How did the black media handle the reporting of pre- and postdisaster recovery information?"

WBLX radio indicated that Mobile County Civil Defense provided someone to make announcements frequently. Larry Williams, station manager, also stated:

We had all of the news coming in from the news services. Of course, we have an emergency news service and we were alerted that the hurricane perhaps would hit this area. And 24 hours before [Hurricane Frederic hit] we told all of the people that we would like for as many of them to come in to work . . . to answer the telephone . . . [and] take the news as it came in relating to the hurricane. And, of course, aside from the news service and the emergency broadcast system, we had our own telephone lines and we also had special receivers to the Weather Service. We had asked people to call the station and find out places to go for shelter, food, stuff like that. And we had an open line to the Red Cross, Salvation Army and other service groups during that time.

Charles Porter, owner and publisher of The Inner City News, used the postdisaster bulletins and announcements provided by Mobile County Civil Defense to provide postdisaster coverage from a "minority" perspective. In an interview, Porter said:

In some of the minority areas, power was restored after predominantly white areas of the city had been serviced. There seemed to be an unequal distribution of emergency shelters, ice, food, assistance, that sort of thing. My articles tended to focus on a different perspective. . . . There already was adequate coverage by other media . . . radio, television, daily newspapers . . . on the basic information concerning Hurricane Frederic. I try to take the same information and examine it from a perspective based on the needs of the poor and blacks in the city. Other newspapers in this city tend to be sort of conservative and don't really deal with the real issues. They are afraid of losing advertising money, you know.

"In what specific ways did the black media actually assist in the pre- and postdisaster period?"

The Beacon newspaper published recovery assistance information. Lencie Thomas, publisher and owner, also shared the newspaper's resources with members of the surrounding community. Recounting the first days following the storm, she said,

We had water here [at the newspaper office] and no water at home . . . and that was no problem. I'd come down here with my cans and get water and carry it out for the neighborhood. . . . If you had a piece of bread, somebody else could have it.

WBLX radio directly assisted by broadcasting prewarning information and bulletins, and postdisaster assistance information. The station provided staff to answer a flood of incoming telephone calls from the public. WBLX received an award for outstanding service to the community for its efforts during the disaster period.

WGOK radio broadcasted hurricane information and emergency coping procedures continuously until damage to the station's transmitting tower and interior flooding of its facilities brought operations to a halt. After Hurricane Frederic subsided, the station provided information concerning available disaster aid (clothing, food, shelters). The station also provided listeners with information supplied by the Better Business Bureau and Legal Aide Agency that warned of dishonest contractors and investors defrauding hurricane victims left vulnerable by the emergency.

In numerous instances, normal programming or publishing was altered to provide the public with as much accurate information as possible about the disaster and related recovery efforts.

Newspaper Coverage

At the main branch of the Mobile Public Library, the files of back issues for The Press Register, The Inner City News, and The Mobile Beacon were reviewed. Despite the fact that both The Inner City News and The Beacon provide free copies to the public library, the files for these two black-oriented, weekly newspapers were scant at best. However, The Beacon did have a bound volume of all its publications which was made available to our research team, and The Inner City News forwarded copies of past publications to the research team following our on-site visit.

Newspaper articles were placed in one of three categories:

- 1) Prevention/Warning Articles: general information about hurricanes, safety tips.
- 2) Impact Articles: related specifically to the immediate aftermath of Hurricane Frederic and published within a few days of the storm.
- 3) Postimpact Articles: follow-up articles published several days to a few weeks after Hurricane Frederic.

Table 5 presents a ten-year census of prevention/warning and hurricane impact articles published in The Press Register (excluding Hurricane Frederic). The Beacon (founded in 1954), is the only black-owned and -oriented newspaper in Mobile that had been publishing for at least ten years prior to Hurricane Frederic. The Beacon's files contained virtually no articles related to hurricanes prior to September of 1979. The Inner City News (founded in 1976) also printed no hurricane articles prior to Hurricane Frederic.

Table 5a presents a census of impact and postimpact articles specifically related to Hurricane Frederic for all three newspapers. It is readily apparent that the white-owned daily, The Press Register, published many more articles specifically about Hurricane Frederic than either of the

TABLE 5

TEN-YEAR CENSUS OF PREVENTION/WARNING AND
HURRICANE IMPACT ARTICLES
(EXCLUDING FREDERIC)
PUBLISHED BY THE PRESS REGISTER

<u>Year</u>	<u>Prevention/ Warning</u>	<u>Hurricane Impact (excluding Frederic)</u>	<u>Total</u>
1970	1		1
1971	1		1
1972	5	5	10
1973	3		3
1974	8	3	11
1975	5	10	15
1976	3		3
1977	3	6	9
1978	2		2
1979	2		2
1980	1		1

TABLE 5A

POSTIMPACT ARTICLES PUBLISHED
BY THE THREE NEWSPAPERS

	<u>9/15 - 10/30</u>	<u>11/1 - 12/1</u>
<u>THE PRESS REGISTER</u>	253	242
<u>THE BEACON</u>	13	1
<u>THE INNER CITY NEWS</u>	3	0

two black-owned and -oriented weeklies. Frequency of publication accounts for a large portion of this difference.

Content analysis of articles published in the three newspapers revealed a pattern consistent with what several informants in Mobile had described as the "politics" of the respective newspapers. Based on informant descriptions, we expected that The Press Register would print little information about or geared specifically toward the black community. We also expected that The Beacon, being a "conservative," black-owned and -oriented newspaper, would avoid publishing articles that could be construed as controversial, particularly from a race relations standpoint. Finally, we expected that The Inner City News, having a "militant" bent, would not hesitate to publish articles that could be construed as controversial.

The content analysis of 495 articles published in The Press Register, 14 articles published in The Beacon, and three articles published in The Inner City News confirmed our expectations. For example, the one article focusing attention on the perception that the more affluent sections of Mobile received more prompt restoration of utility service than did the less affluent neighborhoods was published in The Inner City News. The Inner City News further distinguished itself from the other local newspapers by focusing specifically on the postdisaster relief needs of the black community. Articles published in The Press Register made virtually no mention of relief needs of any specific group in Mobile. Articles in The Beacon did document the extent of the hurricane's destruction in Mobile's black community, but did not single out or address problems as being specific to the community. Note that both The Press Register and The Beacon

published substantially more disaster relief information of a general nature than did The Inner City News.

Our examination of the print media's role before, during and after Hurricane Frederic in Mobile, Alabama, points to the potential for more predisaster coverage in the black press, given the area's vulnerability to hurricanes. The black press was responsive to the particular needs of the black community in ways that were consistent with the philosophies or operating styles of each of the organizations.

"Rip-offs" by dishonest contractors, or "carpet-baggers" (as one respondent put it), were not peculiar to the black community, but were certainly widespread there. The special programming efforts by all of the black media to help alleviate this problem stood as perhaps the most cogent example of a problem in the black community to which the black media were particularly responsive.

Overall, it appears that the white media were better equipped, with more sophisticated facilities, alternative transmitting towers, larger staffs, emergency generators and fuel, and architecturally sound facilities. WABB radio has access to a bomb shelter for broadcasting, and also maintains a small remote studio at Mobile County Civil Defense Headquarters. With the exception of WBLX radio, black media in Mobile are not in as strong a position to maintain continuous operation during a natural disaster.

CONCLUSIONS AND RECOMMENDATIONS

Black Media Model

Information was not available concerning radio programming prior to 1979. The ten-year census of newspaper articles showed that neither of the two black-owned newspapers had published articles regarding hurricane preparedness. This finding is particularly salient given the location of Mobile in a hurricane-prone area.

Hurricane Frederic struck on Wednesday, September 12, 1979. Since both black-owned weeklies published issues shortly after the storm struck, it is not surprising that warning articles specifically about Hurricane Frederic had not been published. However, the weekly publication schedule of the black newspapers should not have precluded the publication of preparedness articles regarding hurricanes in general. As we have seen, the role of the press is small during the impact phase because of print lag time, power outages, and distribution disruption.

Conversely, the role of the broadcast media becomes more critical during impact due to their ability to provide both victims and relief organizations with timely information. Once Hurricane Frederic struck, only one of the four radio stations, white-owned WKRK, was able to broadcast for the duration of the storm.

The owner of the black-owned WGOK radio station said that since her station was located in a high-risk area, her first concern was for the safety of her staff, so the station was evacuated. The other two Mobile radio stations made an effort to broadcast during the storm, but were eventually silenced by Hurricane Frederic's winds. Neither of the black-owned stations was able to broadcast during the storm or for several days afterwards.

The data gathered from several sources suggest that the activities of the black media in disasters may be more accurately presented as reactive rather than proactive. Our findings show a lack of information dissemination regarding predisaster preparedness and hazard mitigation on the part of the black media, but an effort to inform both immediately prior to and directly after the disaster. This also reflects the limited facilities and staff that characterize the black media in Mobile.

Hazards Policies of the Black Media

Our interviews with black media representatives indicated that structure and policy were informal and reactive. If no hurricane is imminent, no hurricane-related activities are engaged in and no hurricane-preparedness information is published or broadcast. If a hurricane is imminent, nonformal procedures will be implemented to provide information to the public.

When Hurricane Frederic was over, local residents were relieved to find that no one had perished during the storm. This is in part due to the fact that Alabamans quickly got out of Hurricane Frederic's way, perhaps because of their memories of Hurricane Camille ten years earlier. The black media, particularly the radio stations, may have been instrumental in helping to refresh such memories within the black community.

Virtually all of the survey respondents indicated that they had had from 12 to 24 hours of lead time between their first warning and the storm's onset. About half of the respondents indicated that they relied on a combination of media source to keep them informed of the storm's progress, with 24% using only television and 10% using only radio. Questionnaire responses indicated that the two black-oriented radio stations had

higher percentages of listenership among respondents than did the two white stations.

Potential for Education

Our analyses clearly show that television was the primary preimpact information medium, with a shift toward radio and newspapers during the postimpact stages. The majority of respondents in our study (60%) claimed that television provided the most believable information during the hurricane. Radio was most believable to 29% of the respondents, and only one person said that the newspaper was the most believable.

Our findings contradict the order and magnitude of difference in believability found in a national media survey reported by Norford (1976). This 12-year study (1959-1971) of media believability by the Roper Organization showed that in 1959, newspapers enjoyed a three percentage point advantage over television (32% to 29%), and almost a three-to-one (32% to 12%) advantage over radio. In each of the succeeding years, the greater believability of newspapers compared to television declined. By 1971, television enjoyed a greater than two-to-one (49% to 20%) advantage over newspapers, and newspapers enjoyed a two-to-one (20% to 10%) advantage over radio.

When we assess the hurricane preparedness and response educational potential of the black media, we must keep the results of the Roper study in mind. At the same time, however, the greater listenership to black-oriented radio within the black community reinforces our suggestion that black radio stations are in a good position to reach a significant portion of the black community with information concerning disaster mitigation, relief, and recovery.

Christensen and Ruch (1978) found both printed brochures and television more effective than radio for presentations on hurricane awareness. The black-oriented newspapers could become important sources of information before and during disasters. Special editions and features could focus on a range of hurricane-related issues, from predisaster preparedness to post-disaster relief, all within the context of the particular needs of the black community.

Race and Credibility

As noted previously, virtually none of our respondents cited the race of television or radio reporters as having any bearing on the believability of the warning messages being transmitted. However, the two black-owned radio stations in Mobile have higher percentages of listenership among respondents than do the two white-owned stations. Obviously, the black orientation of the radio programming is a factor in listenership. In addition, as Plooski points out:

Black [radio] stations in 1975 were also gaining adherents from whites who liked the music and found that much of the news and feature broadcasting covered interesting occurrences generally omitted by other stations (1976, p. 915).

It is highly unlikely that the number of black-owned television stations will increase substantially over the next few years in the United States. However, recent awards of cable television franchises in major urban centers have often been predicated on the degree of minority involvement at all levels of operation, including programming. Thus, it is possible that there will be more minority involvement and orientation in television programming. Since television continues to enjoy wider credibility than newspapers, radio, or magazines, black-oriented programming on

television could provide an ideal medium for educating blacks concerning disaster mitigation, relief and recovery.

Evacuation

Virtually all of the 200 respondents in our survey indicated that they received warnings well in advance of the onset of the storm. Yet only 32% had evacuated their homes. The most common response from those who did not evacuate was that they felt safer in their own home (75%, n=102). Evacuees and non-evacuees showed no significant differences in terms of family size, age, occupation, education, income, marital status, or religious affiliation. Women were found to be slightly more likely to evacuate than were men. Studies by Moore (1963) and Lindell, Perry and Greene (1980) suggest that minorities may be less likely to believe disaster warnings and thus less likely to evacuate their homes in response to such warnings. This is an area that is certainly in need of further study, and may go a long way toward explaining why minority groups tend to suffer negative consequences in disproportion to their numbers during natural disasters.

Recommendations

We have described the black media's strengths and limitations before, during and after Hurricane Frederic struck Mobile on September 12, 1979. We have also made projections about the potential role of the black media on the national level regarding design and transmission of disaster information programs.

Our findings suggest that the black media can play an important role in disaster reporting to the black community during an actual disaster. Perhaps more importantly, our findings illuminate the need for further

research in an area that has been long neglected. The following questions remain to be answered:

- 1) Is the black community more responsive to disaster-related information delivered via black-oriented media?
- 2) Are blacks less prone to evacuate their homes than the general population and, if so, why?
- 3) Is black-oriented programming on television the ideal medium for the delivery of disaster mitigation information to the black community?
- 4) Would more disaster-focused programming and reporting in the black media facilitate disaster preparedness, mitigation, and relief in the black community?
- 5) Can television play a greater role in helping to alleviate the apparently disproportionate negative consequences suffered by minorities during natural disasters?

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APPENDIX IInterview Questions (Officials of Radio Stations and Newspapers)

1. a. What is the organization's policy governing disaster coverage?
b. Is there a specific plan, and if so, how is this plan related to the municipality's overall natural disaster emergency plan?
2. How effective was this plan during Hurricane Frederic? Were there any substantive changes or recommendations regarding this plan based on its implementation during a natural disaster? If so, what kinds of revisions were made?
3. What is the sequence of action/activities taken to gather, select, and disseminate information about pre and post disaster activities?
4. Is there a specially designated person(s) within the organization responsible for implementing pre-warning and recovery efforts?
5. In what specific ways did the organization actually assist in the pre and post disaster period?
6. How much air time/print coverage was granted on pre and post disaster information? Was the regular news coverage/radio programming substantially changed?
7. What types of messages/information was relayed by the media during the pre and post disaster period (i.e., evacuation routes, emergency procedures, recovery assistance, etc.)?
8. What types of messages did the public seem to respond to, regarding warning and disaster assistance?
9. To what extent was the organization networking with relief agencies, other media outlets, government agencies, etc. (i.e., Red Cross, FEMA, HUD, SBA, FGA, National Weather Service)?
10. Prior to Hurricane Frederic, were there any on-going efforts to educate the local community on disaster preparedness? Has this kind of educational focus changed since the aftermath of the Hurricane?
11. To what extent has Hurricane Frederic impacted the organization's normal programming/news coverage?
12. Were any additional expenses incurred due to Hurricane Frederic?

13. Is the organization's facility located in a high risk area? What kinds of structural changes have been made, if any, to strengthen the building(s) to withstand high winds and ground shaking?
14. Does the organization have a contingency plan to continue operations in case of a major power failure? What does this plan include?
15. What impact did Hurricane Frederic have on the organization's employees?
16. Does the radio station/newspaper have any legal responsibility with regard to disaster reporting?
17. As a result of Hurricane Frederic, was there increased attention focused on state and/or local legislation to prevent and/or better prepare for natural disasters?
18. Does the radio station have a copy of a publication written by the National Association of Broadcasters -- "A Broadcaster's Guide to Planning for a Natural Disaster?"

APPENDIX II

The Research Instrument

(READ TO RESPONDENT)

Hello, my name is _____. I am a member of a research team from Morgan State University. We are conducting interviews with victims of Hurricane Frederic. We are interviewing people such as yourself to find out how they have been doing since the hurricane and how you utilized the media before, during and after Hurricane Frederic. You have been selected as part of a scientific sample and your participation in our study is very important to our research goals. All the answers you give us are kept strictly confidential and we never use people's names in our studies. We are in no way connected with the federal government, although we will convey the things people in our study tell us about problems they are having with the government, in order to improve federal disaster programs. Your cooperation in our study is very important to us and is greatly appreciated.

(INTERVIEWER: ALL DIRECTIONS TO YOU ARE IN CAPITAL LETTERS AND ENCLOSED IN PARENTHESES - DO NOT READ THESE ALOUD TO THE RESPONDENT.)

(READ TO RESPONDENT)

"I would like to start by asking you some questions about your house."

1. Did you live in the Mobile area at the time of Hurricane Frederic (Sept. 1979)? _____
 - _____ 1. Yes
 - _____ 2. No (THANK RESPONDENT AND CONCLUDE INTERVIEW)

2. At the time of the hurricane what type of dwelling were you living in? _____
 - _____ 1. Trailer (Owned)
 - _____ 2. Trailer (Rented)
 - _____ 3. House (Owned)
 - _____ 4. House (Rented)
 - _____ 5. Apartment
 - _____ 6. Condominium/Townhouse

3. At the time of the hurricane, how many years had you lived in the dwelling? _____

_____ (YEARS)

4. How many years have you lived in this community? _____

_____ (YEARS)

5. Have you moved since the hurricane? _____
 - _____ 1. Yes
 - _____ 2. No (IF NO SKIP TO QUESTION #7)

6. If so, did you move because of your experiences with the hurricane? _____
 - _____ 1. Yes, moved due to experiences.
 - _____ 2. No, did not move due to hurricane experiences.

7. How many persons lived with you at the time of the hurricane?

 (RECORD ACTUAL NUMBER OF INDIVIDUALS RESIDING IN THE HOUSE AT THE TIME OF THE HURRICANE. TOTAL SHOULD INCLUDE RESPONDENT.)
8. What were their ages at the time of the hurricane?
 (RECORD AGES OF ALL INDIVIDUALS EXCLUDING RESPONDENT AND RELATIONSHIP TO RESPONDENT.)

9. Were any of these persons not related to you i.e. not family or kin?

 1. Yes _____
 2. No (IF NO, PLEASE SKIP TO QUESTION #11) _____
10. If so how many were unrelated to you?
 _____ (RECORD NUMBER)
11. At the time of the Hurricane how many working TV's did you have in your house? (RECORD ACTUAL NUMBER)
 _____ (TV's)
12. At the time of the Hurricane how many working radios did you have in your house (not counting car radios)? (RECORD ACTUAL NUMBER).
 _____ (RADIOS)
13. Do you subscribe to or regularly read a Mobile area newspaper?

 1. Yes _____
 2. No (IF NO PLEASE SKIP TO QUESTION #15) _____
14. If so, which ones?
 _____ (NAME OF MOBILE AREA NEWSPAPER)
 _____ (LIST ALL MENTIONED)

15. How much time (in hours) on the average do you normally spend listening to a radio each day (including car radio)?
 (RECORD ACTUAL NUMBER OF HOURS) _____ (HOURS)
16. Approximately how much time do you normally spend watching TV each day? (RECORD ACTUAL NUMBER OF HOURS)
 _____ (HOURS)
17. Besides your experience with Hurricane Frederic have you ever been in any other natural disaster?

 1. Yes _____
 2. No (IF NOT PLEASE SKIP TO QUESTION #21) _____
18. What type (CHECK ALL THAT APPLY).

 1. Tornado _____
 2. Flood _____
 3. Hurricane _____
 4. Earthquake _____
 5. Tsunami (Tidal Wave) _____
 6. Other _____ (SPECIFY)
19. Did you receive any warning messages for that (those) disasters?

 1. Yes _____
 2. No (IF NO PLEASE SKIP TO QUESTION #21) _____
20. From what sources? (CHECK ALL THAT APPLY)

 1. TV _____
 2. Radio _____
 3. Newspaper _____
 4. Face to Face _____
 5. Sirens _____

21. Have you ever been warned about a disaster that never actually came or affected you? _____

1. Yes, in Mobile _____

2. Yes, elsewhere _____

3. No _____

22. Please answer Agree or Disagree to the following statements:
(CIRCLE ANSWER GIVEN)

AGREE DISAGREE a. False warnings make me feel like not believing most disaster warnings. _____

AGREE DISAGREE b. False warnings are OK because it's better to be safe than sorry. _____

(READ TO RESPONDENT)

"Now I have some questions to ask about warnings you might have received about Hurricane Frederic."

23. Overall about how many warning messages did you receive about Frederic (from all sources) prior to the hurricane getting here? _____
(RECORD ACTUAL NUMBER OF SOURCES OR VERBAL STATEMENT IF RESPONDENT CAN'T GIVE AN EXACT NUMBER IN, UNSURE, PROBE FOR MANY, FEW ETC.)

24. From what source did you first hear that Frederic might hit Mobile? _____

1. Local fire/police _____

2. Radio _____

3. TV _____

4. Newspaper _____

5. Neighbor, friend _____

6. Relative _____

7. Family member - living at home _____

8. Did not receive any warning _____

25. How did you receive the first message that Frederic might hit Mobile? _____

1. Telephone _____

2. Face to face _____

3. Tuned in to media _____

4. Read about it _____

26. After receiving your first warning, how certain were you that Frederic would hit your area? (ON A SCALE OF 0 TO 6 WITH 1 BEING VERY UNCERTAIN AND 6 BEING VERY CERTAIN.)

0 1 2 3 4 5 6 _____

27. For about how long before Frederic hit did you receive warning messages? (IN HOURS/DAYS) _____ (HOURS/DAYS)

28. From what sources did you receive warning messages about Frederic? (CHECK ALL THAT APPLY)

1. TV _____

2. Radio _____

3. Neighbor, friend _____

4. Relative _____

5. Family member - i.e. living at home _____

6. Local fire/police _____

29. Which source did you tend to believe the most? (CHECK ONLY ONE)

1. TV _____

2. Radio _____

3. Neighbor, friend _____

4. Relative _____

5. Family member - living at home _____

6. Local fire/police _____

37. If not, why didn't you evacuate? (RECORD VERBATIM)

30. In the 12 hours before Frederic hit did you rely on one source more than others for keeping track of the storm?

- 1. Yes
- 2. No (IF NO, PLEASE SKIP TO QUESTION #32)

31. If yes, which one? (RECORD SOURCE - SPECIFIC NAME OF STATION, NEWSPAPER, ETC.)

32. In the 12 hours before the storm, did you attempt to confirm or get additional information on any warning message by either checking other media or calling anyone?

- 1. Yes
- 2. No

33. Did you receive any messages from anyone about evacuating your home prior to Frederic hitting Mobile?

- 1. Yes
- 2. No

34. If yes, did you evacuate your home?

- 1. Yes
- 2. No (IF NO, SKIP TO QUESTION #37)

35. If yes where did you go and how long did you remain there?

(PLACE)
(LENGTH OF TIME SPENT THERE IN DAYS/HOURS)

36. How soon after Hurricane Frederic struck were you able to return to your own home to live? (IN DAYS)

(DAYS GO TO QUESTION #39)

38. Since you didn't evacuate did you do anything special to prepare your home and family for Frederic? (LIST ALL THINGS DONE)

39. Did you follow any advice given out over the media regarding how to prepare for Frederic?

- 1. Yes
- 2. No (IF NO, PLEASE SKIP TO QUESTION #41)

40. If yes what? (RECORD ALL ADVICE FOLLOWED WHETHER THEY EVACUATED OR NOT)

41. Twelve hours before Frederic hit, how certain were you that your area (neighborhood) was going to be impacted? (ON A SCALE OF 0 TO 6 WITH 0 BEING NOT CERTAIN AT ALL AND 6 BEING VERY CERTAIN)

0 1 2 3 4 5 6

42. How much danger did you personally feel you were in prior to Frederic hitting (ON A SCALE OF 0 TO 6 WITH 0 BEING NONE AND 6 EXTREME)

0 1 2 3 4 5 6

43. In the 12 hours prior to impact did you at anytime discuss the situation with family or relatives? _____

1. Yes, Face to Face _____

2. Yes, Over the Telephone _____

3. Yes both (FACE TO FACE AND TELEPHONE) _____

4. No _____

44. In the 12 hours prior to impact did you at anytime discuss the situation with friends/neighbors? _____

1. Yes, Face to Face _____

2. Yes, Over the Telephone _____

3. Yes both (FACE TO FACE AND TELEPHONE) _____

4. No (SKIP TO QUESTION #47) _____

45. Did those discussions influence what you decided to do regarding the Hurricane? _____

1. Yes _____

2. No (IF NO PLEASE SKIP TO QUESTION #47) _____

46. If so how? (RECORD ACTUAL RESPONSE) _____

47. Did your neighbors evacuate the area? _____

1. Yes _____

2. No _____

3. DK _____

48. Did any of your relatives evacuate the area? _____

1. Yes _____

2. No _____

3. Not Applicable _____

49. Did you receive any information from any source about where to go for evacuations? _____

1. Yes (IF YES, FROM WHICH SOURCES) _____

50. Given all the warning and evacuation messages you received, which source provided you with the most believable information? (CHECK ONLY ONE) _____

1. Local Fire/Police _____

2. TV _____

3. Radio _____

4. Newspapers _____

5. Friends/Neighbors _____

6. Relatives _____

7. Family Member (i.e. living at home) _____

51. What was it in particular that made you believe those messages? (CHECK ONLY ONE) _____

1. Content (What they said) _____

2. Delivery (How they said it) _____

3. Accuracy, Specificity of the message _____

4. Visual aspects - TV _____

5. Did not believe _____

6. Other _____ (RECORD RESPONSE)

52. In terms of the storm's actual impact and damage, which one source of information provided you with what, looking back, turned out to be the most accurate information?

- 1. Local Fire/Police _____
- 2. TV _____
- 3. Radio _____
- 4. Newspapers _____
- 5. Friends/Neighbors _____
- 6. Relatives _____
- 7. Family Member (i.e. living at home) _____

53. How much damage did your home and property receive from the storm? (RECORD ANY DESCRIPTION)

- 1. None _____
- 2. Slight _____
- 3. Moderate _____
- 4. Severe _____
- 5. Totally destroyed _____

54. Was your home damaged by a tornado set off by Hurricane Frederic?

- 1. Yes _____
- 2. No (IF NO, PLEASE SKIP TO QUESTION #57) _____

55. If yes did you receive any specific tornado warning?

- 1. Yes _____
- 2. No (IF NO, PLEASE SKIP TO QUESTION # 57) _____

56. If yes, from what source did you receive tornado warnings?(SPECIFY)

57. How many people did you know who were injured in the storm? (RECORD ACTUAL NUMBER)

_____ # of friends/neighbors _____

_____ # of family (living with you) _____

_____ # of kin _____

58. Did you use any aid program to help pay or repair the damage to your home?

- 1. Yes _____
- 2. No _____

59. I'm going to read you a list of agencies/organizations that made aid available to victims of Frederic. For each that I mention would you tell me if you received aid from it and what type?

YES	NO	TYPE OF AID RECEIVED
_____	_____	Red Cross _____
_____	_____	Salvation Army _____
_____	_____	FDAA (FEDERAL GOVERNMENT) _____
_____	_____	SBA (HOW MUCH FOR LOAN) _____
_____	_____	Local Civic Organizations _____
_____	_____	Church Groups _____

64. Is your family completely over the storm in terms of your finances (reconstruction losses, etc.)? _____

- _____ 1. Yes
- _____ 2. No

65. After the storm, were you or any member(s) of your family particularly upset by the storm emotionally speaking? _____

- _____ 1. Yes
- _____ 2. No (IF NO SKIP TO QUESTION #67)

66. Did you (they) seek any counseling, guidance or help with these emotional upsets? _____

- _____ 1. Yes (FROM WHOM) _____
- _____ 2. No _____

67. Were you aware of any programs designed to help disaster victims with their emotional problems? _____

- _____ 1. Yes
- _____ 2. No (IF NO SKIP TO QUESTION # 69)

68. If yes, how did you hear about them? (RECORD ACTUAL RESPONSE) _____

69. Would you do anything differently if you heard that Mobile might be hit by another hurricane? _____

- _____ 1. Yes (SPECIFY) _____
- _____ 2. No _____

60. For the aid programs that you got help from in recovery how did you find out about each one? _____

SOURCE OF INFORMATION

- RED CROSS _____
- SALVATION ARMY _____
- FDA (FEDERAL GOV.) _____
- SBA _____
- LOCAL CIVIC ORGANIZATIONS _____
- CHURCH _____

61. Did you have insurance on your home? _____

- _____ 1. Yes
- _____ 2. No (IF NO SKIP TO QUESTION #64)
- _____ 3. Not Applicable (SKIP TO QUESTION #64)

62. If yes, was the settlement adequate to cover your losses from Frederic? _____

- _____ 1. Yes (IF YES SKIP TO QUESTION # 64)
- _____ 2. No

63. How did you make up the difference between your losses and your insurance money? (RECORD ACTUAL RESPONSE) _____

- _____
- _____
- _____

75. Are there any improvements that you can recommend in terms of how disaster aid program were advertised after Frederic (RECORD RESPONSE)

70. Would you use the same sources for information you mentioned earlier if your heard another one was coming?

- 1. Yes _____
- 2. No _____

71. Which one media source would you be most likely to use in case of a future disaster here?

(GET NAME OF PAPER, CHANNEL OF TV, ETC.)

72. Are there any specific personal characteristics about a TV reporter that might make you believe disaster warnings?

- 1. Dress _____
- 2. Manner (SPECIFY) _____
- 3. Race _____
- 4. Other _____

73. Is there anything about the actual disaster warning messages that you hear or see that would make you more likely to believe them? (CHECK ALL THAT APPLY)

- 1. Tone of the message _____
- 2. What the message consisted of _____
- 3. Source of the message _____
- 4. Other _____

74. Do you find that the use of weather maps, pictures of the storm, on TV or in newspapers, were influential in your believing the warnings about Frederic?

- 1. Yes _____
- 2. No _____

76. Which technique would be most useful to victims for telling them about disaster aid?

- 1. TV _____
- 2. Radio _____
- 3. Newspapers _____
- 4. Posters _____
- 5. Loudspeakers _____
- 6. Other _____

77. Prior to impact did you see any films on TV of Frederic?

- 1. Yes _____
- 2. No (IF NO, SKIP TO QUESTION #79) _____

78. Did any of these films on TV influence you in terms of what actions you took?

- 1. Yes _____
- 2. No _____

79. Did you watch weather program on TV regarding the storm?

- 1. Yes _____
- 2. No (IF NO, PLEASE SKIP TO QUESTION #81) _____

30. Did these weather programs influence you in terms of what actions you took? _____

- 1. Yes _____
- 2. No _____

31. At any time during Hurricane Frederic were you worried about the possibility of looters? _____

- 1. Yes _____
- 2. No _____

32. Did that concern affect what you did before the storm hit? _____
(RECORD ACTUAL RESPONSE)

(READ TO RESPONDENT)

"Now I'd like to ask you some questions about your feelings, experiences, and attitudes regarding things in general."

"I'm going to read you some things some people have told us that they have felt from time to time. Do you tend to feel or not..."

(CIRCLE APPROPRIATE ANSWER) YES, FEEL NO, NOT FEEL DK

33. The people running the country don't really care what happens to you. 1 2 3

34. The rich get richer and the poor get poorer. 1 2 3

35. What you think doesn't count very much anymore. 1 2 3

36. Most people with power try to take advantage of people like yourself. 1 2 3

(CIRCLE APPROPRIATE ANSWER)

YES, FEEL NO, NOT FEEL DK

37. The people in Washington, D.C. are out of touch with the rest of the country. 1 2 3

38. Family ties are strengthened when times are hard. 1 2 3

"Here's a list of statements. After I read the statements will you tell me if you agree or disagree with the statement."

(CIRCLE APPROPRIATE ANSWER) AGREE DISAGREE

39. Many times I feel that I have little influence over the things that happen to me. 1 2

40. In the long run the bad things that happen to us are balanced by the good ones. 1 2

41. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad luck anyhow. 1 2

42. Sometimes I feel that I don't have enough control over the direction my life is taking. 1 2

(READ TO RESPONDENT)

"Before we conclude, I'd like to ask a few general questions about yourself and your family."

43. How old are you? _____ YEARS

44. Race of respondent (ASK THIS QUESTION ONLY IF YOU CANNOT DETERMINE THE ANSWER YOURSELF) _____

99. What is your current marital status?

- 1. Married _____
- 2. Single _____
- 3. Divorced _____
- 4. Separated _____
- 5. Widowed _____
- 6. Unmarried Cohabitant _____

100. What was your marital status at the time of Hurricane Frederic?

- 1. Married _____
- 2. Single _____
- 3. Divorced _____
- 4. Separated _____
- 5. Widowed _____
- 6. Unmarried Cohabitant _____

101. What is your religious affiliation?

- 1. None _____
- 2. Protestant _____
- 3. Catholic _____
- 4. Jewish _____
- 5. Other _____

102. How frequently do you attend religious services.

- 1. Do not attend _____
- 2. Very infrequently _____
- 3. Occasionally _____
- 4. Frequently _____

95. Sex of respondent.

- 1. Male _____
- 2. Female _____

96. Occupation of head of household.

SPECIFY _____

97. What was the highest grade you completed in school?

- 1. Grade 9 or less _____
- 2. High School - incomplete _____
- 3. High School - Graduate _____
- 4. Some college or technical school _____
- 5. College Graduate _____
- 6. Post graduate - professional _____
- 7. Other _____

98. About how much is your total income (from all sources in a given year)?

- 1. Less than \$5000 _____
- 2. \$5001 to \$7500 _____
- 3. \$7501 to \$10,000 _____
- 4. \$10,001 to \$15,000 _____
- 5. \$15001 to \$20,000 _____
- 6. \$20,001+ _____

103. How important is religion in your life? _____

_____ 1. Very Important

_____ 2. Fairly Important

_____ 3. Neither Important nor unimportant

_____ 4. Unimportant

_____ 5. Completely unimportant

THANK THE RESPONDENT AND CONCLUDE THE INTERVIEW!