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Disaster Vulnerability of University Student Populations

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by

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ABSTRACT

Student populations at Gulf Coast universities and colleges are subjected to multiple forces working together making them an especially vulnerable sub-group to hazards. Research has suggested that college students represent a segment of the population that hazards research has frequently overlooked and maybe not fully appreciated in university emergency planning. Most prior research has focused on university disaster experiences, highlighting what went wrong, and what should be done but little research focuses on what is actually taking place. The primary intent of this research was to gain better insight into university emergency planning and identify areas universities have neglected with respect to students' wellness. Interviews were conducted with various representatives from university Emergency Management, Student Affairs and Residence Life Offices at universities in the Florida State University System. Universities were found to have neglected concerns pertaining to student involvement, assessment of hazards perceptions, language barriers, mutual-aid agreements, emergency housing plans and personal emergency plans of key personnel. The results from this study will help fill gaps in hazards and emergency management research and provide useful suggestions for improving university emergency planning and areas for future research.

CHAPTER ONE:

INTRODUCTION

Disasters, both natural and technological, have the potential to seriously disrupt and threaten the safety of individuals and community infrastructure. While hazards cannot be avoided, actions can be taken to significantly reduce losses.

The term hazard represents the potential interaction between humans and event, which may have negative economic, human and environmental health effects. Disasters represent the actual event and its collision with the human use system (Tobin & Montz, 1997). Disasters disrupt countless lives every year and being prepared can substantially reduce the associated fear, anxiety, stress and losses (Boyd et al., 2002). Furthermore, they significantly impact vulnerable individuals, groups or societies causing consequences for the affected communities (Wilson et al., 2008).

Emergency management can be broadly defined as the process and implementation of policies sought to identify hazards and anticipate the unexpected in order to reduce risk to human life and monetary losses (Petak, 1985). Currently there are four accepted phases of emergency management: mitigation, preparedness, response, and recovery. Both mitigation and

preparedness take place before the disaster and determine the quality of the other two phases, response and recovery, both of which take place at the onset of the disaster and beyond (FEMA, 2010).

Historically, the initial focus of emergency management was concerned with response and recovery activities and was conducted for, not with the community, and ultimately lead to ineffective planning (Burby, 2001). However, as the number of disasters increased, so did the body of research on the social implications surrounding them (Pearce, 2003). Emergency management began to evolve from a regulatory top-down approach to an integrated institutional and community based approach. It began to be recognized that social systems operate in various ways to generate disasters by making people vulnerable. With this, the importance of understanding the various ways in which social systems allow subdivisions of society to be vulnerable to losses was acknowledged.

Vulnerability refers to the probability that a group or individual will be exposed to, and adversely impacted by, a disaster; it is a function of risk and the ability to respond. Social vulnerability is not evenly distributed among society. Some communities are more susceptible to damage, loss and suffering based on the characteristics of the community population (Cutter, 2006). The multifaceted nature of vulnerability requires consideration of both the geographical and social systems that give rise to hazards and the consideration of the context in which a hazard takes place (Cutter, 2006; Tobin & Montz, 1997). Research has

suggested that college students represent a segment of the population that hazards research has frequently overlooked and has been neglected to some degree in university emergency planning.

To fully understand the disaster vulnerability of university student populations we must begin with a detailed examination of the available research pertaining to university emergency management and the hazard vulnerability of student populations.

The literature concentrating upon hazards, emergency management and social vulnerability research is extensive and an extremely large area to review. For this reason, the focus of this research was only to those issues most pertinent to university student populations.

1.1 Disasters and Universities

Within the last two decades, there have been numerous accounts of disasters that have affected university and college campuses (FEMA, 2003). Prior to Hurricane Katrina, very little consideration was given to the impact of disasters on institutions of higher education and the corresponding experiences of college students (Stein et al., 2007). A survey conducted in 2004 by Mitroff et al. (2006) among United States colleges and universities found that institutions were largely only prepared to handle events they have had past experience with. Likewise, Friesen and Bell (2006) revealed that among 22 universities surveyed in Canada,

less than half (45%) reported the institution was prepared to deal with the effects of a disaster. As addressed by FEMA, disasters that have recently affected universities include but are not limited to:

- In 1989, Loma Prieta earthquake damaged numerous buildings at Stanford University, ultimately causing the closure of 11 buildings, and costing approximately $300 million in repairs and retrofits.
- In 1992, Hurricane Andrew caused $17 million in damages to the University of Miami forcing the university to close for a month.
- In January of 1994, the Northridge earthquake damaged three Los Angeles universities. Of the three, California State University suffered the most, with an estimated $380 million in damages. Nearly every building on campus was damaged, and the university was forced to close down operations for a month, and temporary trailers took the place of formal classrooms.
- In April of 1997, the Red River inundated the University of North Dakota, forcing the university to suspend many operations and close its doors for a month. Total damages are estimated to be about $46 million.
- In July of 1997, a local creek flooded Colorado State University. The library and bookstore were inundated with water, damaging hundreds of thousands of books and other valuable documents, forcing most of

the campus to close for 2 weeks. Damages have been estimated to exceed $100 million.

- On Labor Day of 1998, a windstorm caused severe infrastructure damage to Syracuse University in central New York State. Numerous residence halls were forced to close and 600 students were dislocated. The storm caused more than $4 million in damages.
- In July of 1999, a heat wave caused a major power outage in New York City. Columbia University lost power for 3 days. There were not sufficient backup generators to keep freezers and incubators running resulting in the loss of irreplaceable research. Damages have been calculated in the millions of dollars.
- Hurricane Floyd pounded North Carolina in September of 1999, causing serious flooding at East Carolina University in Greenville. Afterwards the university was surrounded by water for weeks and the university was only partially operational. Some students were forced to lodge with local residents in town.
- January 19, 2000, a fire broke out in an old residence hall at Seton University, New Jersey, during the night. The fire killed three students and seriously injured 12; the residence hall did not have a sprinkler system.
- In June of 2001, Tropical Storm Allison inundated universities in the Houston, Texas area with 10-24 inches of rain. The University of Texas at Houston Medical School building was flooded with 22 feet of

water, causing the closure of the hospital for first time in history and seriously disrupted research efforts. Total losses from the storm are estimated to be $745 million.

- On January 11, 2002, a three-alarm fire broke out on the University of California Santa Cruz campus. Several labs were completely destroyed, and damages have been estimated to range between $4-5 million. The labs were constructed in 1987 before fire codes required sprinkler systems (FEMA, 2003).
- In the fall of 2004, four hurricanes raged through Florida within a 44-day period (Figure 1). University and college campuses sustained an estimated $23 million in damages (Gutierrez et al., 2005)
- Just as the fall semester was starting in August of 2005, Hurricane Katrina struck the coasts of Louisiana, Mississippi, and Alabama. At least 30 college and university campuses sustained storm damages. Damages have been estimated to exceed $1.5 billion. New Orleans universities were forced to shut down for the fall semester, forcing over 50,000 students to relocate (Gill et al., 2007).
- On September 14, 2008, Hurricane Ike devastated the University of Texas Medical Branch in Galveston, seriously damaging one million square feet of university property (Watson et al., 2011).

Events such as these not only threaten the safety of all university community members, but can also destroy university campuses and facilities (Stein et al.,

2007). Similar to local communities, losses that universities incur can be reduced considerably through mitigation planning.

1.2 Vulnerability & Students

Vulnerability refers to the probability that a group or individual will be exposed to and adversely impacted by a disaster; it is a function of risk and ability to respond. Social vulnerability is not evenly distributed among society. Some communities are more susceptible to damage, loss and suffering based on the characteristics of the community and those residing in it (Cutter, 2006). The multifaceted nature of vulnerability requires consideration of both the geographical and social systems that give rise to hazards and the consideration of the context in which a hazard takes place (Cutter, 2006; Tobin & Montz, 1997).

While research is limited, available work suggests that students represent a sub-group of the population that is especially vulnerable to the negative outcomes of disaster events (He et al., 2007). In addition to the stress and challenges presented by the psychological adjustment to college (Kline & Lu, 2005), college students, particularly international and out-of-state students, are subject to a number of known factors that increase vulnerability to hazards. As identified by He (2007), these factors include: environmental familiarity, life experience, disaster experience, financial burdens, interrupted social networks, language barriers and cultural differences.

1.2.1 Environmental Familiarity. The importance of familiarity and knowledge of the surrounding local environments has been documented within hazards research. Zhang et al. (2004) conducted a study examining the evacuation decisions from Hurricane Bret. Results indicated that awareness of the spatial distribution of risk have been found to significantly improve emergency response. In other words, those who can accurately identify their risk area are more likely to respond favorably to threats. College students are commonly forced to adjust to new lives in new locations that may be susceptible to different risks than their previous environments (He et al., 2007). Students may need time and education to become familiar with the surroundings of their new community. This may hold particularly true for out-of-state students, and especially so for international students, who are new comers to the country (He, 2007).

1.2.2 Life Experience. Age and level of responsibility have been shown to correlate with awareness of potential risks such that higher responsibility tends to be connected with higher levels of risk perceptions and thus may serve to reduce vulnerability (Sjoberg, 2003). The majority of traditional college students are still dependent on others to provide for them in one way or another. Typical college students generally lack life experience and have only been making responsible decisions for themselves for a relatively short period of time (Collins et al., 2009). This, along with a certain youth and optimism, may make them less aware of risks and can serve to increase their level of vulnerability (FEMA, 2003).

1.2.3 Disaster Experience. In many cases, risk perception forms after disaster experience (Slovic, 1987). Having no prior experience with a potential disaster and little knowledge of associated risks presents difficulties when assessing one's own perception and preparedness (Tobin & Montz, 1997). Disaster experiences of students who did not previously live in the host community of their university may be different from the disaster experiences they have in their past. Knowing nothing about a potential hazard may cause students to be either overly fearful or completely unaware of the threat. In contrast, those students who have had experience with hazards being present in the community, depending on the severity of past events, may have become habituated and underestimate the severity of the threat. Both scenarios can potentially increase vulnerability (He, 2007).

1.2.4 Financial Burdens. Disaster losses can be high and the preventative measures taken to reduce vulnerability can be expensive (He, 2007). Access to resources enables individuals to better prepare for emergency situations. A study done by Mulilis et al. (2000) compared tornado preparedness of students, non-student renters and non-student owners. The study found that homeowners were more prepared than non-student renters and non-student renters were more prepared to respond to tornado activity than were students. Traditional students generally have low-income levels, which could lead to an increase in vulnerability (FEMA, 2003).

1.2.5 Interrupted Social Networks. Response to hazards can be mediated by social influences from friends, family, co-workers and public officials (Slovic, 1987). Family and friends can provide much-needed support in emergency situations. Many college students live away from home and are disconnected from previously established social networks while attending college. This disconnection can cause distress when students cannot easily communicate with family and friends, whom they may need to rely on for assistance. This could be particularly problematic for freshmen who have just recently arrived at their institution. Building social networks takes time, and the rate at which this occurs varies for different individuals (He, 2007).

1.2.6 Language Barriers. Language barriers can be particularly problematic. Language barriers may impede understanding of emergency warning systems affecting emergency response decisions (He, 2007). He et al. (2007) developed a study among universities and colleges located in the Houston, Texas metropolitan area assessing differences in evacuation behavior between domestic and international students. A major finding of the study was that international students would require more assistance than domestic students in order to understand emergency warning systems and were less likely to be able to properly distinguish the threat-level differences between hurricane warnings and hurricane watches. Inability to accurately interpret emergency warning systems and messages can increase vulnerability to approaching threats.

1.2.7 Cultural Differences. Cultural norms, values and beliefs have not only been shown to influence risk perception but to also influence behavior when presented with a threat (He, 2007). Selective attention to risk can correspond to cultural biases such as worldviews and ideologies (Wildavsky & Dake, 1990). The study previously mentioned (He et al., 2007) also found that experience with false alarms determines domestic students' future behaviors more than those of international students. International students also indicated that they would be more likely to follow the evacuation behaviors of their neighbors than domestic students would. This could be a serious problem if domestic students are familiarized with the approaching threat and underestimate its severity and choose not to evacuate; based on these findings it could be assumed that international students might choose not to evacuate as well.

These factors, then, may serve to hinder effective emergency planning within university communities and increase student vulnerability. The acknowledgement of risk to a disaster and the community's understanding of vulnerability are essential to ensure that the planning phase of a disaster is adequate.

1.3 Post-Disaster Student Research

Available post-disaster research involving universities infers that, in addition to the initial stress of relocation and resource loss, students may also be susceptible to a prolonged series of secondary traumas impacting their lives and

education when returning to a university struggling with infrastructure and fiscal emergencies (Gill et al., 2007).

In 2004, Hurricane Charley and Hurricane Frances hit central Florida within three weeks of each other. A study by Gutierrez et al. (2005) examined the stress among college students at Valencia Community College (Orlando, Fl) who were exposed to these hurricanes at the start of the 2004 fall term. In the aftermath of Hurricanes Charley and Frances, the majority of the students indicated that they experienced moderate to extremely high levels of stress. When certain adjustments were made by faculty such as, creating flexible alternate curricula, relaxing course requirements and providing extra assistance and support, students overwhelmingly reported reduced levels of stress, all while maintaining a high level of education. The study advised that faculty and administration remain mindful of students' well-being and state of mind post-disaster.

In September of 2005, Ladd et al. (2006, 2007) conducted a post-Hurricane Katrina study on dislocated students from various New Orleans college campuses to address the social impacts of the hurricane. Before Hurricane Katrina made landfall, over 50,000 students were forced to evacuate from their New Orleans college campuses. Most students were affected by a shortage of financial resources during the evacuation. In addition, over 60% of students claimed that their universities did not provide any evacuation assistance and 75% of students relied on family for basic necessities and guidance. The majority of

students openly expressed dissatisfaction with disaster response on all levels. When interviewed, one student was quoted as saying:

> *"The evacuation process is one bad memory as a whole, and was incredibly frustrating for most students on campus. More organization among the campus administrators and communication with students would have made this a less negative experience (Ladd et al., 2007 p.55)."*

Hurricane Katrina devastated New Orleans and as a result every university in the New Orleans area closed for the fall semester, forcing thousands of students to relocate. Most students reported finding out that their university had cancelled classes through school websites. More than half of students claimed that they were not able to function normally either physically or mentally for up to two months after the hurricane.

Another study conducted by Gill et al. (2007) examined the different experiences of students impacted by Hurricane Katrina, comparing college students from multiple Universities within New Orleans and Mississippi State University (MSU). New Orleans students were assumed to have suffered direct impacts, and MSU students were assumed to have suffered indirect impacts from the storm. The study found that, for New Orleans students, Hurricane Katrina caused significantly greater negative impacts when compared to MSU students. New Orleans students reported experiencing more fear, greater perception of human responsibility, greater economic and personal loss, less satisfaction with disaster response, less trust in their institutions and higher levels of psychological stress.

Furthermore, it was found that stress continued for students who were not only returning to a city in ruins, but to universities that were struggling with infrastructure repairs, fiscal emergencies, and many institutional uncertainties that would force many students to transfer and relocate, once again, to another university in order to complete the required coursework for their area of study. The study urged that university communities should work to improve their institutional preparedness and mitigation procedures in the face of growing hazards and vulnerability.

Sokura and Cosby (2007) displayed the important and crucial role of Information and Communication Technology (ICT) in the survivability and resilience of educational institutions in the wake of a disaster recognizing its increased importance when physical infrastructure is threatened. IT back-up support was shown to be a vital component of university survival due to the extensive amount of information stored regarding faculty and students, that if not backed up properly, could result in the loss of institutional and student records ultimately causing further delay in the recovery processes. Additionally, through interviews, the study also addressed the communication issues experienced at two unidentified universities in New Orleans after Hurricane Katrina. According to those questioned, a major problem after Katrina was the poor communication between students, faculty and staff, who reported that it was nearly impossible to get in touch with students during and immediately after the storm. It was revealed that the institutions did not inform their students of emergency response

plans before Katrina, because they had not anticipated the nature of the storm. The study pushed the importance of informing all stakeholders of institutional emergency operations and planned response activities, before, during and after emergency situations as well as the preparation of campus security, shelter facilities, counseling outreach and financial aid programs.

After Hurricane Ike devastated the University of Texas Medical Branch (UTMB) Galveston in 2008, a research team from the university explored the storm's impact on UTMB students through the use of an electronic student satisfaction survey (SSS) and a Hurricane Needs Survey (HNS). The need for consistency in communication was extremely evident. Students needed the faculty and administration to be visible both during, and in the aftermath, of the hurricane. The team concluded that following major disaster events, students' experience more distress than might be readily apparent, many students reported that life after the storm increased already stressful situations. It was argued that there is a need for greater specificity and the identification of all plausible occurrences is required in emergency preparation. They found that listening to the collective voice of students would lead to more effective suggestions for emergency preparation (Watson et al., 2011).

Universities can play a fundamental role in protecting and helping students recover from the effects of a disaster. Findings from the abovementioned studies are in line with the vulnerability concerns attended to in Section 1.2. These

studies support claims that students represent a sub-group of the population that is exceptionally vulnerable to disaster impacts and are subjected to high levels of stress in the wake of a disaster event. The revealed experiences of students additionally support allegations that students are often overlooked within university emergency planning.

1.4 Pre-Disaster Student Research

In an effort to address the gap in hazards literature concerning student populations, over the summer of 2009, an REU research team at the University of South Florida (USF) interviewed undergraduate students in an attempt to analyze their hurricane perception and preparedness and to assess their ability to handle a hurricane event if one were to occur. The study found that while undergraduates overestimated the likelihood of a hurricane coming to Tampa, they did not report an equivalent level of concern. Undergraduates seemed to be aware of Tampa's susceptibility to hurricanes, but most took it lightly. The research revealed that although most undergraduate students had previous experience with hurricanes, most did not make any preparations for the season. In addition, the majority of the students interviewed felt that USF had not done an acceptable job providing them information on hurricane preparations and procedures (Collins et al., 2009).

Based on the preliminary findings of the above study on USF's undergraduate college students, it became clear that many were not concerned or prepared to

deal with a major hurricane event. It was also apparent from the aftermath of Hurricane Katrina, that New Orleans College students were dissatisfied with their universities' ability and preparedness to deal with an evacuation, causing undue stress in an already tense situation (Ladd et al., 2007).

In the fall of 2009, an additional study by this author, Jamie Auletta, under the supervision of Dr. Jennifer Collins, was devised to assess the hurricane perceptions and preparedness among USF's Residence Life Coordinators and Resident Assistants. This preliminary study focused on students who live in the residence halls and an expected source of where they may receive information. Overall, the surveys displayed a difference in the hurricane perception and preparedness when comparing Residence Life Coordinators to Resident Assistants. Residence Life Coordinators seemed to be more aware of hurricane related facts and university procedures and displayed a slightly higher concern for a hurricane coming to the area. The majority of Residence Life Coordinators correctly identified the start of hurricane season, 60%, and all knew the end of hurricane season. In contrast, the majority of Resident Assistants did not know either the start or end of hurricane season with only 25% correctly identifying the start date and 34% correctly identifying the end date. Eighty percent of Residence Life Coordinators reported knowing evacuation plans for their halls while 59.1% of Resident Assistants did not. When asked if plans had been communicated to residents 50% of Residence Life Coordinators reported yes and 40% did not know. On the other hand only 24.4% of Resident Assistants

reported yes and 41.1% did not know. The majority of Residence Life Coordinators knew the shelter location for students, 80%, but 73.3% of Resident Assistants did not. The majority of both groups did not know where the special needs shelter was located, 80% and 98.9% for Residence Life Coordinators and Resident Assistants respectively. Additionally, roughly half of the Resident Assistants, 48.7%, were unaware of their duties during an evacuation. These preliminary results highlighted that both groups were not sufficiently prepared to deal with a major hurricane event, though there was a difference between groups. USF's Residence Life Coordinators were more prepared and more confident in their ability to handle a hurricane event on campus than their Resident Assistant counter parts. However, both groups had largely overlooked the needs of special needs individuals.

Residence Life Coordinators were offered a class on hurricane preparedness, but it was unclear if this was mandatory. Resident Assistants were not offered a class in hurricane preparedness and as shown 45.3% felt that the university had not provided them with sufficient information on hurricane preparedness and response and 23.3% did not know if the university had provided information. The preliminary results indicated that many Resident Assistants did not take their leadership role in the university seriously. Many disagreed, 89%, that an online course pertaining to preparedness and response activities would be helpful in their roles, even though throughout the survey they admitted to a lack of knowledge regarding hurricane preparation and their responsibilities as Resident

Assistants. When asked to add comments about their hurricane preparation and preparedness, one commented “Hunker down, save the alcohol, hurricane party!” and another responded “Slip and slides!” Although it is important to note that Resident Assistants are undergraduate students, and exhibit the typical ‘seize the moment’ lifestyle of many college students, they should also be aware of the importance of their leadership role in the university.

Though the research conducted at USF was essentially a small-scale preliminary study and unpublished, it should not be discarded and should be taken as a cause for concern. It is alarming that many students are not aware of university emergency plans and do not feel they, themselves, are prepared to deal with a hurricane event. The lack of awareness on the part of the Resident Assistants to their responsibilities and the allegation that students did not feel the university had done a good job providing emergency information by the REU study is equally distressing. All individuals holding leadership roles within university systems should be aware of preparedness and response procedures before the threat of an emergency situation.

It should be noted that, at the time the above studies were conducted, USF was in a transition in terms of the of USF emergency management and was in the process of bringing in new Emergency Management Personnel.

1.5 Lessons Learned

After the 2004 and 2005 hurricane season, it became apparent that universities struggled with emergency response. In March of 2006, the International Association of Campus Law Enforcement Administrators (IACLEA), the U.S. Department of Homeland Security (DHS) and the Federal Bureau of Investigation (FBI) assembled a listening session for higher education institutions affected by Hurricanes Katrina and Rita. During this session, participants presented a summary of the most important issues they encountered leading up to, and in response to, Hurricane Katrina and Rita. The information was then compiled into a technical report: Campus Public Safety Preparedness for Catastrophic Events: Lessons Learned from Hurricanes and Explosives, 2006. The report was intended to serve as guide to help campus public safety agencies to take the necessary steps to protect the lives and property of the college and university communities they are committed to.

According to the report, it was revealed that during the hurricanes, many schools found themselves without adequate plans and were forced to adopt hasty responses. Themes arose and institutions found that they:

- Did not have adequate self-sufficiency plans.
- Designated shelter sites were not in the best locations or structurally best for withstanding extreme conditions.

- Responders reported encountering situations that they were not trained to handle and had difficultly communicating with the chosen decision-makers in their command structure.
- Situational awareness was reported as one of the greatest problems all the participating institutions were faced with; internal and external communication was an issue for almost every school.
- Some of the resources needed were located on campus but not readily available or accessible to the buildings in which they were needed.
- Existing plans had not been exercised and many members that were designated duties in the formal emergency operation plans were not on site during the event.
- Plans were found to be ineffective and short sighted.

In addition to providing a summary of the lessons learned after disasters, the same report also provided a summary of suggestions to improve university emergency management. Some of the major suggestions made included:

- Emergency Operation Plans (EOPs) should be reviewed, revised and updated frequently.
- Ensure that all key personnel have their own emergency plans for family members before an incident occurs.
- Keep back up records of all essential contact information and records at a safe location that will remain accessible during an emergency.

- Coordinate the campus EOPs with surrounding agencies in the community and clarify in advance the protocol for use of campus facilities as shelter points.
- Extend Campus self-sufficiency plans.
- Form relationships with federal entities in the area, but do not solely rely on government agencies for support.
- Establishing mutual aid agreements within the surrounding community is extremely important.
- Make sure to have adequate plans to deal with counseling needs.

While these finding can be extremely useful for emergency planning and public safety, it is important to acknowledge that representatives from the participating institutions were only from the public safety departments. It is alarming that the perspective and experiences of the student body were not explored, nor were the specific vulnerabilities or concerns of the student body addressed.

1.6 Communities & Emergency Planning

The overall goal of emergency planning is resilience, to be able to endure an event without unacceptable losses or interruption and to foster recovery. Emergency management depends largely upon economic and social conditions within a disaster region. While hazards cannot be avoided, resulting losses can be minimized (FEMA, 2010). Unfortunately, emergency management has been

known to fall into one-size fits all approach instead of identifying the unique needs and characteristics of the community (Godschalk, 2003).

To be truly sustainable, communities must develop comprehensive on-going planning strategies that encompass all aspects of the hazard dilemma and takes into consideration the significance of social heterogeneity (Tobin, 1999). Pearce (2003) urged that planners should be addressing the question "planning for whom?" There will always be social and cultural differences within any given community, which if not addressed prior to an emergency situation will typically hamper recovery efforts (Pearce, 2003).

1.6.1 Community Involvement. An increasing amount of literature within the emergency management field is advocating the involvement of citizens in planning. Citizen involvement, although it can be difficult, if done correctly, has been shown to overcome many of the obstacles that have hindered the success of emergency management in the past and can increase the overall effectiveness of the adopted mitigation measures (Burby, 2001).

In an effort to demonstrate the importance of citizen involvement in emergency planning, Burby (2001) explored the choices that emergency managers are confronted with when deciding how to involve citizens in the planning process. A number of measures were found to increase the overall effectiveness of emergency planning and consist of the following:

- The collaboration and fostering of citizen influence in mitigation planning. Greater collaboration with citizens would often generate new problem solving ideas that kept the community in mind.
- The use of various techniques to foster citizen involvement (meetings, workshops, committees, interviews, surveys, etc.). The more techniques used the more probable that different groups' views and concerns will be brought to the table.
- The use of multiple channels to distribute information. The more channels used, the more likely a larger portion of the community population will be reached.
- The education of citizens regarding issues pertaining to hazards and planning. Citizen have to be educated if planning is going to have an impact.
- The involvement of citizens from the very beginning of the planning process and continued involvement throughout all phases.
- The consideration of citizen preferences concerning the courses of action to deal with emergency events. Consideration of preferences ensures that plans are not dead on delivery and vital resources are not wasted.
- The exploration of and inclusion of citizen knowledge of and experience with hazards to supplement technical studies when planning.

Burby (2001) showed that the conscious inclusion of public participation can greatly enhance emergency management, leading to more effective plans that are not dead on delivery and actually produce measurable results.

1.6.2 Universities as Communities. Higher education institutions are communities in themselves. Each university community has different demographics and needs that should be planned for, depending on the location and guidelines set forth by the university (FEMA, 2003). Communities are constantly in a state of flux, as people move into an area and others move out presenting newly imposed conditions, which can generate severe consequences for local communities if not considered (Tobin, 1999). This may not be better seen than on a university campus where the campus population changes day to day, semester to semester and year to year, with new students moving on to and off campus each semester from all different backgrounds and communities.

Similar to local communities, losses that universities incur can be reduced considerably through emergency planning. Furthermore, post-disaster relating to university emergency planning found that listening to the collective voice of students could lead to effective suggestions resulting in better emergency preparation, similar to findings on community involvement addressed in Section 1.6.1.

1.7 Summary & Problem Statement

Disasters impact university communities and the student populations found in these communities are subjected to multiple forces working together making them an especially vulnerable sub-group of the population to hazards. The attention given to the student population and their vulnerabilities within institutional emergency planning appears to be sparse. If not taken into consideration, this could serve to hinder the effectiveness of emergency response procedures within university communities and further increase student vulnerability.

The overall goal of emergency planning is resilience, to be able to endure an event without unacceptable losses or interruption and to foster recovery. The wellness of students should be a paramount concern within institutions of higher education. Based on available research it appears that, in the past, many universities have not been adequately prepared to meet the needs of, or assist students, during the onset and aftermath of an emergency event.

Universities can play a vital role in protecting and helping students recover from the effects of a disaster. In order for plans to be effective and take responsibility for the welfare of students, universities need to make a commitment that is conscious of the needs and vulnerabilities of the student community and recognizes the importance of including students in all phases of the planning process. Knowledge of the student enrollment characteristics and hazard

perceptions is essential if universities are to create emergency plans unique to their institutional needs and take responsibility for student wellness.

It appears that the majority of the research, which has focused on the emergency management within universities, has examined university disaster experiences, highlighting what went wrong, and what should be done for effective emergency planning. University students represent a sub-group of the population that was slow to be acknowledged in hazards research compared to the vulnerability literature available on other populations. As a result, there is a lack of research concerned with the focus of students in emergency planning and what is actually being done in university planning in regard to this. The goal of this research is to explore university emergency planning and to provide information to better develop preparation plans with respect to student wellness.

1.8 Research Objectives

The primary intent of this research is to attain better understanding of how universities prepare to deal with emergency situations. This research sought to explore general emergency operation plans and procedures with a selective focus on hurricanes and the considerations given to student wellness, student involvement in emergency planning, and leadership knowledge of plans and procedures in reference to Emergency Management, Student Affairs, and Residence Life Offices. In addition, research aimed to uncover potential inadequacies that may exist within emergency planning that universities may not

be aware of. This research, then, helps fill gaps in the hazards and emergency management literatures concerned with the focus of students in university emergency planning and provide us with a better understanding of the complex nature of the topic.

1.9 Research Questions

The following research questions were designed for this study:

1. To what extent have students been involved in university emergency planning?

2. What are the most common elements universities have neglected to consider regarding student wellness?

3. Are there any visible trends in university participation and/or preparedness based on university characteristics?

CHAPTER TWO:

METHODOLOGY

2.1 Study Area

With over 1,300 miles of coastline, there is no point in the state of Florida that is more than eighty miles away from the coast, making every location in the state vulnerable to hurricane activity. Florida experiences longer hurricane seasons than most places and they are more likely to occur later into the year (Malmstadt, 2009). Statistically, there is a 46% chance that Florida will be hit by at least one hurricane each year (Malmstadt, 2009). Using the National Oceanic and Atmospheric Administration's (NOAA) hurricane tracking tool, 126 hurricanes have made landfall in the state of Florida since 1851.

Hurricanes are among the most destructive natural hazards facing the United States, accounting for more than half of all weather related damages (NSB, 2007). Hurricane events from the 2004 and 2005 seasons reinforce the fact that Florida is indeed extremely vulnerable to the impact of hurricanes. In 2004 four hurricanes, Charley, Frances, Ivan, and Jeanne, made landfall in the state in a 44-day period. It has been estimated that since the early 20th century, Florida has lost $450 billion in hurricane related damages; college campuses reported

losses of approximately $23 million in the 2004 season alone (Gutierrez et al., 2005; Malmstadt, 2009).

Given Florida's exceptional vulnerability to hurricane activity, The State University System of Florida (SUS) was selected for this research. The State University System of Florida is a system of eleven public universities (Figure 2). During the 2010 school year over 320,000 students were enrolled in the system. Of those 247,857 were undergraduates and 40,034 were classified as first time in college (FTIC) students. There were 27,857 students registered as non-Florida residents and 13,089 as international students. Campus residents comprised of approximately 44,935 students (Table 1). The following sections provide a brief overview of the State University System of Florida, university locations, student enrollment characteristics, as well as institutional experience with hurricanes.

The presented data on the student enrollment characteristics in this section is based on the 2010 school year and was obtained from the Florida's State University System's Interactive University Database (based off of all campuses). Figures pertaining to campus residents were obtained through phone calls made to each university's institutional research and housing offices. This information is approximate and is representative of the 2011 school year.

Data on each universities hurricane experience was obtained through the use of NOAA's Historical Hurricane Tracking tool. To determine the number of storms

that were in the vicinity of current university locations, storms that came within a 74.8-mile radius of the city of university location were selected. This radius was selected in part because it is equivalent to the 65-nautical mile radius set as the tool's default search area, and in recognizing the fact that hurricanes can exceed 300 miles in width with winds extending outwards to distances of up to 300 miles (NOAA, 1999), it seemed reasonable to use the default radius search area. In order to determine storms that could be considered direct hits to the area, it was decided to reduce the search area down to a 23.02-mile radius; 20 nautical miles. Only main campus locations were considered. This was done to demonstrate university susceptibly to hurricane events; a more thorough newspaper search would reveal more accurate results.

Figure 1. The State University System of Florida (FLBOG, 2011 pg. 6)

Table 1. State University System Student Enrollment Characteristics

State University System Student Enrollment Characteristics	
Total Enrollment	321,503
Undergraduate	247,408
FTIC	40,034
Florida Resident	293,646
Non-Florida Resident	27,857
International	13,089
Campus Residents	~ 44,935

For organizational purposes of this section universities have been categorized into Eastern, Inland, and Western universities based on location as follows:

Eastern Universities

- University of North Florida
- Florida Atlantic University
- Florida International University

Inland Universities

- University of Central Florida
- University of Florida
- Florida Agricultural and Mechanical University
- Florida State University

Western Universities

- Florida Gulf Coast University
- University of West Florida
- New College Florida
- University of South Florida

2.1.1 Eastern Universities. The University of North Florida (UNF) was established in 1972. Located in Florida's northeast region, the university is situated in Jacksonville (Duval County). In 2010, over 16,000 students were enrolled at the university. Of those students, 14,049 were undergraduates, 1,995 were FTIC students, 434 were registered as Non-Florida residents, 297 were classified as international students and campus residents consisted of 3,000 students (Table 2). On record, 19 hurricanes have made landfall near Jacksonville and two came close enough to be considered direct hits (Table 3). Since the university's establishment in 1972, two hurricanes have made landfall near Jacksonville, although none were close enough to be considered direct hits (Table 4).

Florida Atlantic University (FAU), established in 1964, is located southeast in Boca Raton (Palm Beach County). Over 28,000 students were enrolled at FAU during the 2010 school year. Of those students, 22,419 were classified as undergraduates, 2,983 were considered FTIC students, 1,654 were registered as Non-Florida Residents, 680 were international students and 4,000 students live on campus (Table 2). On record, 40 hurricanes have come in the vicinity of the university's location; six were close enough to be considered direct hits (Table 3). Since the university's establishment, nine hurricanes made landfall in the area and there was one direct hit (Table 4).

Established in 1972, Florida International University (FIU) is also located in the southeast region in the city of Miami (Miami-Dade County). During the 2010 school year, over 44,000 students were enrolled at the university. Undergraduates comprised 32,901 students, 5,123 designated as FTIC students, non-Florida residents consisted of 4,312 students, 3,033 were registered as international students and 2,700 students lived on campus (Table 2). On record, 38 hurricanes made landfall near the university, with 13 close enough to be considered direct hits (Table 3). From the time of university establishment six hurricanes have come through the Miami area, two considered to be direct hits (Table 4).

Table 2. Eastern Universities' Student Enrollment Characteristics

Eastern Universities' Student Enrollment Characteristics			
	UNF	**FAU**	**FIU**
Total Enrollment	16,320	28, 390	44,010
Undergraduate	14,049	22,419	32,901
FTIC	1,995	2,983	5,123
Florida Residents	15,886	26,736	39,698
Non-Florida Residents	434	1,654	4,312
International Students	297	680	3,033
Campus Residents	~ 3,000	~ 4,000	~2,700

Table 3. Number of Hurricanes on Record in Eastern University Locations

Number of Hurricanes on Record in Eastern University Locations		
University	**Number of Hurricanes on Record**	**Number of Hurricane Direct Hits on Record**
UNF	19	2
FAU	40	6
FIU	38	13

Table 4. Number of Hurricanes on Record in Eastern University Locations since University Establishment

Number of Hurricanes on Record in Eastern University Locations Since University Establishment		
University	**Number of Hurricanes**	**Number of Hurricane Direct hits**
UNF- 1972	2	0
FAU- 1964	9	1
FIU- 1972	6	2

2.1.2 Inland Universities. Established in 1963, the University of Central Florida (UCF) is located in the central region of the state, in Orlando (Orange County). Over 56,000 students were enrolled in the University during the 2010 school year. Undergraduates totaled 47,347 students, 6,183 FTIC students, 2,648 non-Florida residents, 1,393 international students and 6,000 students residing on campus (Table 5). On record, 26 hurricanes have passed by the Orlando area with seven direct hits (Table 6). Since university establishment in 1963, six hurricanes have passed by Orlando with one direct hit (Table 7).

Located in Alachua County, the University of Florida (UF) is in north central Florida in Gainesville and was established in 1853, but has only been in its current location since 1906. During the 2010 school year over 50,000 students were enrolled at the university. Of those students, 32,064 were classified as undergraduates, 6,352 were FTIC students, 8,059 were registered as non-Florida residents, and 4,071 as international students. Over 9,000 students lived in campus housing (Table 5). On record, 18 hurricanes have come through the

Gainesville area; six direct hits (Table 6). Since 1906, when the university took on its current location, nine hurricanes came within the vicinity of the university with one direct hit (Table 7).

Florida Agricultural and Mechanical University (FAMU) was established in 1887. The university is located in Tallahassee (Leon County). In the 2010 school year over 13,000 students were enrolled at the university. Of those students, 11,147 were undergraduates, 2,739 were FTIC students, 1,961 were registered as non-Florida residents, 97 as international students and 2,600 campus residents (Table 5). On record, 16 hurricanes have made landfall in the Tallahassee area with four direct hits to the area (Table 6). Since the university's establishment in 1887, eight hurricanes have passed through the area, of which one was a direct hit (Table 7).

Established in 1851, Florida State University (FSU) is also located in Tallahassee (Leon County). The university had over 40,000 students enrolled during the 2010 school year. Undergraduates comprised 30,946 students, 6,001 were classified as FTIC students, 3,814 were registered as non-Florida residents, 1,632 as international students and over 6,000 lived on campus (Table 5). On record, 16 hurricanes have come through the Tallahassee area and four are considered to be direct hits (Table 6). The same detail holds true for the number of hurricanes and direct hits the area has encountered since the university's establishment in 1851 (Table 7).

Table 5. Inland Universities' Student Enrollment Characteristics

Inland Universities' Student Enrollment Characteristics				
	UCF	**UF**	**FAMU**	**FSU**
Total Enrollment	56,338	50,116	13,277	40,764
Undergraduate	47,347	32,064	11,147	30,946
FTIC	6,183	6,352	2,739	6,001
Florida Residents	53,690	42,057	11,316	36,950
Non-Florida Residents	2,648	8,059	1,961	3,814
International Students	1,393	4,071	97	1,632
Campus Residents	~ 6,000	~ 9,400	~ 2,600	~ 6,100

Table 6. Number of Hurricanes on Record in Inland University Locations

Number of Hurricanes on Record in Inland University Locations		
University	**Number of Hurricanes on Record**	**Number of Hurricane Direct Hits on Record**
UCF	26	7
UF	18	6
FAMU	16	4
FSU	16	4

Table 7. Number of Hurricanes on Record in Inland University Locations since University Establishment

Number of Hurricanes on Record in Inland University Locations Since University Establishment		
University	**Number of Hurricanes**	**Number of Hurricane Direct hits**
UCF- 1963	6	1
UF- 1906	9	1
FAMU- 1887	8	1
FSU- 1851	16	4

2.1.3 Western Universities. Florida Gulf Coast University (FGCU), established in 1997, is located in Ft. Myers (Lee County). During the 2010 school year over 12,000 students were enrolled at the university. Of those

students, 10,303 were undergraduates, 2,245 classified as FTIC students. There were 672 registered as non-Florida residents and 185 as international students. Roughly 3,500 students live in campus housing (Table 8). On record, 22 hurricanes have made landfall near the university's location, eight close enough to be considered direct hits (Table 9). Since the university's establishment, two hurricanes have passed through the Ft. Myers area with one direct hit (Table 10).

Established in 1967, the University of West Florida (UWF) is located in the Florida panhandle in Pensacola (Escambia County). Over 11,000 students enrolled with the university during the 2010 school year. There were 9,135 undergraduates, 1,258 students classified at FTIC students, 1,225 registered as non-Florida residents, 236 as international students and 1,800 students lived on campus (Table 8). On record, 24 hurricanes have passed by the Pensacola area; six direct hits (Table 9). Since the establishment of the university eight hurricanes have passed through Pensacola with three direct hits (Table 10).

New College Florida (NCF) was established in 1964 and is located in Sarasota County. During the 2010 school year 805 students were enrolled at the university. All the enrolled students were undergraduates and 183 were considered FTIC students. There were 135 non-Florida residents registered and one international student. The majority of students, 644, live on campus (Table 8). On record, 22 hurricanes have come by the Sarasota area with two direct hits

(Table 9). Since the university's establishment three hurricanes came by the vicinity of the university and there have been no direct hits (Table 10).

Established in 1956, the University of South Florida (USF) is located in Tampa (Hillsborough County). Over 47,000 students were enrolled at USF during the 2010 school year, 36,292 of which were undergraduates and 4,972 were classified as FTIC students. There were 2,943 students registered as non-Florida residents and 1,464 international students. Campus residents comprised of 5,200 students (Table 8). On record, 25 hurricanes have come by the Tampa area with four direct hits (Table 9). Since the establishment of the university, five hurricanes have come through the area and there have been no directs hits (Table 10).

Table 8. Western Universities' Student Enrollment Characteristics

Western Universities' Student Enrollment Characteristics				
	FGCU	**UWF**	**NCF**	**USF**
Total Enrollment	12,083	11,645	805	47,800
Undergraduate	10,303	9,135	805	36,292
FTIC	2,245	1,258	183	4,972
Florida Residents	11,366	10,420	670	44,857
Non-Florida Residents	672	1,225	135	2,943
International Students	185	236	1	1,464
Campus Residents	~ 3,500	~ 1,800	~ 644	~ 5,200

Table 9. Number of Hurricanes on Record in Western University Locations

Number of Hurricanes on Record in Western University Locations		
University	**Number of Hurricanes on Record**	**Number of Hurricane Direct Hits on Record**
FGCU	22	8
UWF	24	6
NCF	22	2
USF	25	4

Table 10. Number of Hurricanes on Record in Western University Locations since University Establishment

Number of Hurricanes on Record in Western University Locations Since University Establishment		
University	**Number of Hurricanes**	**Number of Hurricane Direct hits**
FGCU- 1997	2	1
UWF- 1967	8	3
NCF- 1964	3	0
USF- 1956	5	0

Complete tables of hurricanes found to make landfall near university locations are provided in Appendix A. It is important to note that while all of the hurricanes listed might not have had any impact on the universities or the surrounding area, it is still crucial to take notice of them due to the unpredictable nature of hurricanes. It is not unreasonable to say that any one of those hurricanes could have made direct hits to university locations. It was also necessary to note hurricanes that have passed through university locations prior to university establishment in order to reinforce that all universities in the state system are susceptible to hurricane activity regardless of their experience. This information is later used to recognize any trends based on location and/or experience. It is

also worth mentioning that a category 3 hurricane has come in the vicinity of each university location, the same strength as Hurricane Katrina was when it made landfall. While locations in Florida would not be subject to the same type of damage as New Orleans, Louisiana, a storm as low a category 1 could produce catastrophic damage depending on how slow the storm in moving and the other weather conditions present with which the hurricane would be interacting (NOAA, 1999).

2.2 Research Design

This research examined and combined a number of different elements in order to gain greater insight into the vulnerability of university student populations and university emergency planning. The research into this topic was exploratory and primarily qualitative, using interviews and descriptive analysis. This author and her mentors went through human subjects protection training prior to implementation. The study was approved by USF's Institutional Review Board (IRB# Pro00003204). Research was completed in the phases detailed below.

1. Addressing issues covered in Chapter One, individual representatives from Emergency Management, Student Affairs, and Residence Life Offices within Florida's State University System (see section 2.1) were interviewed. Separate, slightly individualized, interview questionnaires were designed for each office and used as guides for discussion allowing for effective evaluation of university emergency planning and knowledge

of university emergency operation plans. Interview questionnaires were comprised of both closed and open-ended questions. Contact information was obtained from public university websites. In light of the state's vulnerability to activity and because hurricanes have the potential to present many of the same challenges as other major emergency events, there was an underlying focus on hurricane preparedness and planning. Anonymity was granted to participants and universities were to remain confidential. Universities were assigned letters so they would remain indistinguishable.

2. Interviews were reviewed and the information gathered was generalized into tables, by office and university, based on key points discussed in the interviews. These tables were then analyzed and the leading elements of concern were identified and addressed with supplemental information from the interviews.

3. Data pertaining to the ease of access to emergency information through university homepages were collected through exploring university websites and routes taken to reach emergency information. This information was then analyzed in respect to office and university participation.

4. To identify any trends regarding participation and preparedness, the following categories were chosen: location, size, direct hurricane experience, university research classification, participation in community engagement elective classification, and storm ready designation.

   As noted in section 2.1, universities were identified as either Eastern, Inland or Western universities based on location. Universities were then classified into two groups based on student population, small-to-medium and large universities. For the purpose of this study, universities with student populations between 0–20,000 students were classified as small-to-medium and those with student populations of 20,001–54,000 students as large. University's direct experience with hurricanes ranged from 0–4. In order to maintain university anonymity, universities were categorized as having experience with zero, one, or two or more hurricanes. This is based on information provided in sections 2.1.1, 2.1.2 and 2.1.3.

   Universities were categorized into four research classifications based on the classifications assigned to them by the Carnegie Foundation for the Advancement of Teaching. Universities were classified as Doctoral Research Universities (DRU), Research Universities with very high research activity (RU/VH), Research Universities with high research activity (RU/H), and 'other' to uphold confidentiality. Universities

categorized as ‘other’ were universities classified as Master’s L: Master’s Colleges and Universities and Bac/A&S: Baccalaureate Colleges – Arts & Sciences.

The community engagement classification identifies the universities that have elected to participate and those who have not. The elective classification, created by The Carnegie Foundation for the Advancement of Teaching (FLBOG, 2011 pg. 21) emphasizes the “collaboration between institutions of higher education and their larger communities for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity.”

Storm-Ready is a program designed by NOAA’s National Weather Service that aims to prepare and guard communities against the effects of severe weather. The program claims that communities that have attained the ‘Storm-Ready’ designation are ‘better prepared’ for the effects of severe weather hazards. Before obtaining the Storm-Ready accreditation, communities must meet the preparedness guidelines outlined by the program. The Storm-Ready classification identifies universities that have been designated ‘Storm-Ready’ and those that have not (Franklin, 2012).

5. Once university classifications were established, university participation, interview response rates, and preparedness were determined for each category. University participation was based on the number of universities in the group and how many universities participated in at least one interview. Interview response rates were determined by the total number of interviews possible for the group and the actual number of interviews that were conducted.

   In order to compare differences in preparedness a means to rank preparedness was established. The sole purpose of this was to compare differences. To achieve this, the same elements that were identified as areas of concern in sections 3.1, 3.2 and 3.3, were used with a few modifications. Responses regarding the presence of international students and students with special needs on campus, in addition to the requirements of staff to receive training, were removed, as these elements were merely informational and a yes or no response did not indicate a lack of knowledge. Responses pertaining to the requirements of students to live on campus were modified to resemble the knowledge of these requirements.

   The number of elements that signified that a lack of knowledge or planning existed was totaled for the individual participants in the Emergency Management, Student Affairs and Residence Life Offices, and then

converted into percentages. Once established, these numbers were then applied to rank preparedness on a university level. For universities with participation from more than one office, percentages were based on the total elements a lack of knowledge or planning existed and total possible between offices.

For the purpose of this study preparedness reflects the considerations given to student needs and wellness and aspects of university emergency planning that impact student vulnerability. Higher percentages reflect a higher number of elements that a lack of consideration was given to and imply a lower level of preparedness. Lower percentages imply higher levels of preparedness in regards to student wellness.

CHAPTER THREE:

RESULTS

Eight universities had participation from at least one of the contacted offices and three did not for an overall participation rate of 72%. Seventeen interviews were conducted generating an interview response rate of 51.5%. Four of the interviews were conducted with Emergency Management Office representatives for a 36.4% response rate, six with Student Affairs Office representatives producing a 54.5% response rate and seven with Residence Life Office representatives, a response rate of 63.6% (Table 11). Office interview response rates are illustrated in Figure 2. Three universities had participation from all three offices. Three universities had participation from two offices. Two universities had participation from one office (Table 12).

Table 11. Florida's State University System Participation

Florida's State University System Participation		
	Total	**Percentage**
Number of Univ. Participated	8	72.0
Number of Univ. Did Not Participate	3	27.0
Number of Interviews Conducted	17	51.5
Number of EM Interviews	4	36.4
Number of SA Interviews	6	54.5
Number of RL Interviews	7	63.6

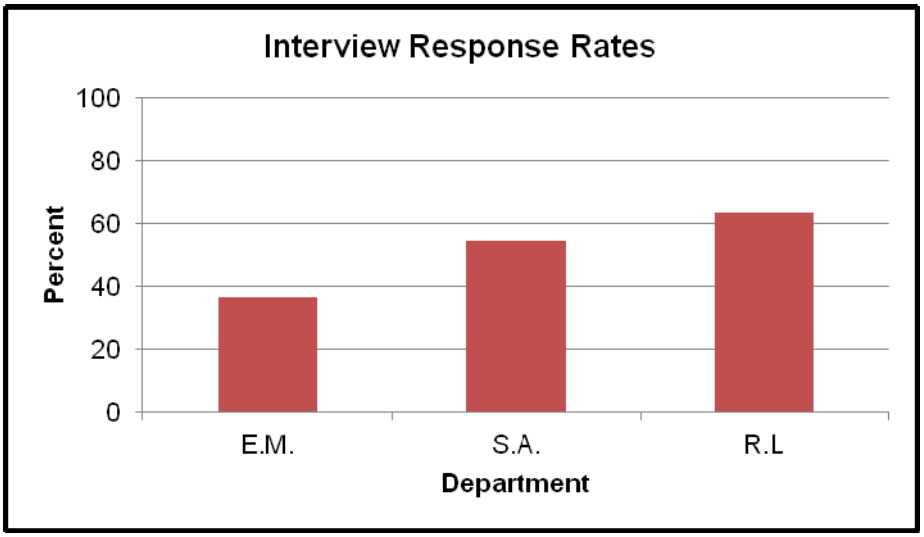

Figure 2. Office Interview Response Rates

Table 12. Participants at Individual Universities

Participants at Individual Universities				
University	**Emergency Management**	**Student Affairs**	**Residence Life**	**Total**
A	✓	✓	✓	**3**
B	-	✓	✓	**2**
C	-	✓	✓	**2**
D	-	-	-	**-**
E	-	-	✓	**1**
F	✓	-	✓	**2**
G	✓	✓	✓	**3**
H	-	-	-	**-**
I	✓	✓	✓	**3**
J	-	✓	-	**1**
K	-	-	-	**-**
Total	**4**	**6**	**7**	**17**

The following sections will summarize the main concerns that were identified during the conducted interviews with representatives from the Emergency Management, Student Affairs and Residence Life Offices. Areas that warrant concern were generalized into tables by office and university. These points are

then discussed further based on information that was gathered during interviews. All individuals interviewed held professional titles of manager, director, assistant director, vice president or assistant vice president.

3.1 Emergency Management Interviews

Four interviews were conducted with representatives from Emergency Management Offices (Tables 11 &12). The emergency management interview questionnaire can be found in Appendix B. The data in Table 13 highlights the elements of concern that emerged among the universities. An organized table with generalizations of all key points discussed can be found in Appendix C. Table 13 shows, that among the participating universities, a lack of knowledge and/or consideration exists in relation to:

- University staff training
- Adoption and testing of plans
- Shelters and shelter resources
- Preparation of students
- Assessment of students
- Student involvement
- Emergency warning in foreign languages
- Accommodations for those with special needs
- Requirements of students to live on campus
- SIS usage

- Mutual-aid agreements with outside universities
- Emergency housing plans
- Personal plans of key personnel

3.1.1 University Staff Training. When asked if the entire university staff receives emergency preparedness training, universities A, F and I reported no, while university G responded yes. For university A, emergency operations committee (EOC) members receive training throughout the year on a variety of topics and exercises are done at a minimum of once a year. Some faculty members are EOC members and receive training but faculty members are not reached out to for training purposes. Awareness education is provided around campus for faculty and students but they are not required to attend. At University F, faculty and staff receive information but not training. Training is given to building emergency coordinators. Every building on the campus has primary and secondary emergency coordinators for every department in the building. All of the emergency coordinators get together annually before hurricane season for retraining and to discuss any questions. Resident Assistants receive training with the housing department. At University G, quarterly training is provided for new employees. While the emergency management department and crisis management team are trained, updated and briefed three times a year. Mock hurricane exercises are undertaken before the start of the season. University I, reported that throughout the department training is a continuous process, although, the entire university staff does not receive training. An introduction to

university emergency management is part of new employee orientation but otherwise material and training is made available but not required.

3.1.2 Adoption and Testing of Plans. When asked if emergency plans had been adopted, universities A, F and G reported yes, while University I reported no. When asked if emergency plans had been tested for effectiveness universities A, G, and I reported yes, while University F reported no. University A reported that exercises are done at a minimum of once a year. University F reported that plans had not been tested for effectiveness through exercises because the university is usually in the position to carry them out in real-life situations. University G reported that mock hurricane exercises are done before the start of the season, in addition, the managers for each building and all departments are required to have and practice their own emergency plans and evacuations. University I reported that while face-to-face meetings occur two to three times a year and plans are updated annually, they had not been formally adopted because they are still in draft form but tabletop exercises are done twice a year.

3.1.3 Shelters and Shelter Resources. All universities have designated university shelter locations. However, not all universities have shelters located on campus or have shelters for special need individuals. Furthermore, only universities A and F reported storing resources at shelter locations. University F has no designated special needs shelter on campus because the county handles

sheltering for specials needs individuals in one of the local high schools. University G does not have a shelter located on campus but has adopted a Red-Cross shelter facility a few miles off campus which is set up to accommodate special needs individuals as well. The university has trained shelter managers and has trained residence life employees to run the shelter. The university did not want a shelter on campus because it feels the fewer people on campus the better.

3.1.4 Preparation of Students. University A felt the university had prepared students for the hurricane season. Students were provided information through orientation and computer based training, as well as open forums. In addition, sometimes emergency planning is discussed during class time with the permission of the teacher. University F reported feeling that the university prepares residents more than non-resident students. Residents are provided with more extensive emergency information. Non-resident students are not prepared until a situation starts. Residents are instructed on what to do, while information is just put out to other students; students are provided with information but not in detail. University G also reported feeling the university prepared students well for hurricane season. Hurricane preparation documents are made available and students are briefed on emergency procedures and plans during orientation. University I reported that the university does a good job making emergency information available and widely promotes this information but a certain level of personal responsibility is assumed. A hurricane survival guide is published in

the public and student paper, which is given to all housing students. The guide is also made available on the university website.

Table 13. Emergency Management Interview Concerns

Emergency Management Interview Concerns				
	A	**F**	**G**	**I**
Entire univ. staff receive training	No	No	Yes	No
Emergency plans adopted	Yes	Yes	Yes	No
Plan tested for effectiveness	Yes	No	Yes	Yes
University shelter locations	Yes	Yes/No sp. needs	Yes/Not on campus	Yes
Resources stored at shelter locations	Yes	Yes	No	No
Has the university prepared students	Yes	Yes/No	Yes	Yes
Students' knowledge and concerns assessed	No	No	Yes/No	Yes
Student involvement in emergency planning	No	No	No	Yes
Emergency warnings in foreign languages	No	No	No	No
Accommodations for visually impaired students	Yes	Yes/No	Yes	Yes
Accommodations for hearing impaired students	Yes	Yes/No	Yes	Yes
Students required to live on campus	Yes	Did Not Know	No	No
SIS prepared to handle and increase in usage	Yes	No	Yes	Yes
Mutual-aid agreements in place with outside universities	Yes	No	Yes	Yes
Mutual-aid agreements include plans for emergency planning	Yes	Yes – Red Cross	Yes	No
Key personnel have plans for themselves and their families	Yes	Encouraged	Encouraged	Encouraged

Note: Highlight indicates concern.

3.1.5 Assessment of Students. University A reported that there has been no recent effort to assess student hazard perception, but the university has in the past; no further details were given. University F also reported that efforts had not been made to assess student perceptions. University G participates in a national Educational Benchmarking Inc. (EBI) study every two years in which students are asked questions about awareness and safety, but the university has not made an individual effort. University I reported that interactive questions and surveys are conducted through social media outlets to gain student perception and suggestions pertaining to emergency responses.

3.1.6 Student Involvement. University A, F and G all reported that students are not involved in emergency planning. At university A, students have not been involved in planning, but it is actively being pursued and meetings with student government have occurred. University F stated that there has not been a lot of student input in planning and that students are mostly represented from an administrative standpoint through Student Affairs and Residence Life. At University G, students are not involved in the planning process but student government does receive some training. The student government association (SGA) at University I holds formal positions on the emergency management committee including the student body president. Additionally, housing has multiple seats on the emergency management team.

3.1.7 Emergency Warnings in Foreign Languages. When asked if emergency warning systems were offered in different languages, every participant reported no. All universities affirmed that English competency is assumed as all students, faculty and staff have to pass an English proficiency test before being admitted to the university.

3.1.8 Accommodations for Those with Special Needs. University A affirmed that out-of-state, international, special needs, and residents are one primary focus of planning at the university and accommodations are in place for individuals with special needs. In addition, the university is currently looking into hazard translators; individuals to translate emergency information to those who may experience a difficult time understanding emergency warning messages and/or other emergency related information. At University F, international programs are in place to take care of international students' needs and to keep track of what they are doing. Accommodations are made for students with disabilities as long as they register with the disability program. University G reported that resident staff identifies international students and students with disabilities. Those with disabilities are assigned rooms with the necessary accommodations and alarms have strobe lights for those who are hearing impaired. At University I, international students have counselors they can reach out to for help. Emails, text messages and blue light systems are in place for the hearing impaired, while sirens and direct phone calls are made to visually impaired students. However, the respondent pointed out that in the area the

university is located, cellular companies do not have a robust infrastructure system in place and the cellular networks can jam easily and have done so.

3.1.9 Requirements of Students to Live on Campus. At University A, first time in college (FTIC) students that did not previously live in the surrounding area are required to live on campus. The participant at University F did not know if students were required to live on campus, stating that a few years prior all freshman were required to live on campus but the representative was unsure if this policy was still in effect, however it is not. Currently, at University G, there is no policy requiring students to live on campus, but in the coming year all FTIC students will be required to live on campus no matter where they lived when admitted to the university. University I has no policy requiring students to live on campus.

3.1.10 SIS Usage. All of the participating universities stated that their Student Information Systems (SIS) are prepared to handle an in increase usage except for University F. University F reported that while its SIS is not prepared to handle an increase in usage, improving this is currently being looked into.

3.1.11 Mutual-Aid Agreements with Outside Universities. Every participating university, apart from University F, stated that it has mutual-aid agreements in place with outside universities. According to University A, there is a standing agreement with all SUS schools. University F reported not having

mutual-aid agreements in place with outside universities, but was looking into it. University G also reported that all SUS schools have a mutual-aid agreement that includes absorbing each other's students. University I asserted that there is a statewide mutual aid agreement in which all state universities, colleges, public agencies, counties and cities are automatically included. However, the respondent was unsure of how realistic some of the plans for aid outlined in the agreement actually are.

3.1.12 Emergency Housing Plans. University A reported that the standing mutual-aid agreement with all SUS schools includes plans for emergency housing. University F reported that the university has emergency housing plans in place with the American Red Cross. At University G, the respondent said that there are agreements in place with outside entities, including local hotels/motels, for emergency housing and Residence Life. University I stated there are no specific plans in place for emergency housing.

3.1.13 Personal Plans of Key Personnel. Key personnel are the key decision-makers in the university's command structures (IACLEA, 2006) and the individuals responsible to lead emergency management efforts on campus (SSP, 2012). University A stated that all key personnel have plans for themselves and their families but did not provide any specifics on how this is known. Meanwhile, universities F, G and I all stated that key personnel are encouraged to have plans for themselves and their families. University G reported that key personnel are

encouraged to have their own plans through training. University I stated that having personal plans is urged and promoted but cannot be guaranteed.

3.1.13.1 Summary of Emergency Management Interviews.

While all university staff members may not receive formal emergency preparedness training, they are provided with information. Training is made available should they choose to seek it out. University I reported that although emergency plans are updated annually, plans were still in draft form and had not been formally adopted. With the exception of University F, the remaining universities reported testing their plans for effectiveness at a minimum of once a year through mock and tabletop exercises. While having shelter locations, not all shelters are located on campus grounds and some universities prefer to keep the number of individuals at shelter locations and on campus to a minimum.

All universities make an effort to provide students with emergency information, but it is not known if students take this information seriously. Students as a whole appear not to be involved in university emergency planning and there have been no formal attempts to assess students' hazard knowledge and perception. However, student government appears to play an active role at University I. Emergency warning systems are not offered in different languages for the reason that English competency is expected and required of all students.

Each university appears to take the needs of those who require additional assistance, ranging from international students, residents, out-of-state students and special needs, into consideration during emergency planning. These considerations include adjustments made to warning systems to ensure hearing or visually impaired students will be notified. Residents are placed in rooms with accommodations as needed. International Student Resource Centers/Programs are in place for international students to reach out to. Two universities reported that FTIC students are, or will be, required to live on campus. One university reported no residential requirements and one university was unaware that there was a policy requiring students to live on campus.

There appears to be a mutual-aid agreement in place between all the SUS, although, there is some confusion surrounding this and to what exactly the plan entails, one school did not reference the agreement at all. Plans for emergency housing differ among universities, but one university reported having no-specific plans in place. Key personnel are encouraged to have plans for themselves and their families, however it is not known if these individuals actually do have plans in place.

3.2 Student Affairs Interviews

Six interviews were conducted with Student Affairs Offices (Tables 11 & 12). The student affairs interview questionnaire is provided in Appendix D. The data in Table 14 highlights the concerns that were identified among the universities.

Generalizations of key discussion points are summarized in table format in Appendix E. The table shows, among participating Student Affairs representatives, there was a lack of knowledge or consideration given pertaining to the following areas:

- Personal training
- Student affairs employee training
- Residence life employee training
- Student Involvement
- Assessment of students
- Emergency warnings in foreign languages
- Requirements of students to live on campus
- Mutual-aid agreements with outside universities
- Emergency housing plans
- Personal plans of key personnel

3.2.1 Personal Training. When participants were asked if they had personally received emergency preparedness and response training from their university, all reported yes with the exception of university I. University A reported receiving training every semester. Hurricane training is not addressed separately; it is part of the overall training process. University B referred to the occurrence of full table-top exercises once a year at the university level and then in addition to that, table-top exercises that occur once a year at the housing level.

This representative helped write the university's emergency plans and is involved in emergency management professionally. University C reported receiving training every year in June in addition to a refresher course that is given at an unspecified time. At University G, the respondent receives training, and is updated and briefed three times a year along with others on the crisis management team. The University I respondent stated that they had not personally received emergency preparedness and response training from the university. The respondent mentioned that one representative from each university department, maybe more, is trained, depending on size and function. That representative is then expected to bring information back to the employees of that department. This goes for all emergency training, including hurricanes. The respondent disclosed that he/she is educated on general emergency plans but nothing specific to hurricanes saying that there is a lot of emergency pre-education, just nothing too specific to hurricanes. University J reported that training occurs as needed, stating that there has been a lot of on-the-job experience. Annual exercises take place that include mock scenarios, case studies and workshops.

3.2.2 Student Affairs Employee Training. Each university reported that not all Student Affairs receive staff emergency preparedness and response training, with the exception of University G. At University A, staff are informed of procedures during new employee orientation, but there is no formalized training that all staff receive. Supervisors are expected to be up-to-date with response

plans and to keep staff informed. Members that would help in response and aftermath activities are trained in such areas as counseling, health services, executive leadership, and members of the campus emergency response team. At University B, all Student Affairs employees are involved with crisis and hurricane preparations, but not all Student Affairs employees are trained. Notes are sent out to deans, directors and department heads on an annual basis providing links for information on preparations. There is no requirement that all Student Affairs staff complete any training. However, personnel considered to be professional and essential staff, along with various maintenance personnel, are required to complete training. Different groups of Student Affairs professional staff go through training in order to respond and assist students during different situations. University C only requires the training of Student Affairs employees who are on the emergency management team and are deemed essential personnel. All Student Affairs employees receive emergency information. University G reported that all Student Affairs employees though, receive emergency preparedness and response training, stating that there is quarterly training for new employees; although the extent of this training is uncertain. At University I, all Student Affairs employees do not receive training and all are not trained to assist students. Representatives from the department that are trained are expected to bring emergency preparedness information back to Student Affairs staff members. All Student Affairs employees at University J are informed of and provided with, information on emergency preparedness and response. However, they are not required to complete any training.

Table 14. Student Affairs Interview Results

Student Affairs Interview Results						
	A	**B**	**C**	**G**	**I**	**J**
Personally received training	Yes	Yes	Yes	Yes	No	Yes
All student affairs employees required to complete training	Not all	Not all	Not all	Yes	Not all	Not all
Student affairs employees informed of emergency operation procedures	Yes	Not all	Yes	Yes	Yes	Yes
All residence life employees required to complete training	Yes	Yes	Yes	Yes	Did not know	Yes
Student involvement in emergency planning	No	Yes	No	No	Yes	Yes
Student government involvement in emergency planning	No	Yes	Informed	No	Yes	Yes
Students invited to form an advisory committee for emergency planning	No	Yes	No	No	Yes	No
Students' knowledge and concerns assessed	No	No	No	Yes/No	No	No
Emergency warnings in foreign languages	No	Yes	No	No	No	No
Students required to live on campus	Yes	No	Yes	No	No	No
Mutual-aid agreements in place with outside universities	Did not know	Yes/No	Did not know	Yes	Yes	No
Emergency housing plans in place	Yes/No	Yes	No	Yes	Did not know	No
Key personnel have plans for themselves and their families	Enc.	Yes	Yes	Enc.	Enc.	Enc.

Note: Highlight indicates concern. Enc. = Encouraged

Only essential personnel are required to complete any training. From a management standpoint, the university feels it is better if some staff members

are not at the university during an emergency event, taking the position that the fewer people to worry about the better.

When asked if Student Affairs employees are informed of emergency operation procedures all participants answered yes. The exception, University B, responded not all. University A informs staff of procedures during new employee orientation. University B referenced the previously mentioned notes that go out to deans, directors and department heads on an annual basis, in which links for information on emergency preparations are provided. The respondent did not mention if this is then passed down to staff. University C asserted that all Student Affairs employees receive emergency information. University G referred back to the new employee quarterly training. University I reported that employees are informed of emergency procedures during new employee orientation. Lastly, University J stated that all employees are informed of information, but did not give any specific details as to how or when.

3.2.3 Residence Life Training. Apart from University I, Residence Life employees are required to complete training at each university. University A stated that Residence Life live-in staff, employees that reside on campus as part of job-function, are trained on emergency preparedness and response and this information is then taken back to the residents. No specific details on the training were discussed. At University B, Residence Life employees are required to complete training and are expected to prepare, inform, and assist residents

during emergency situations. However, Resident Assistants (RAs), and other student staff, would be allowed to leave during an evacuation while some of the professional staff is expected to stay with students. Additionally, University C reported that Residence Life employees are required to complete emergency preparedness and response training and are expected to prepare, inform and assist residents as well. University G responded that all Residence Life employees are required to complete training and employees are prepared to assist and have prepared residents for emergency situations. In the event of an evacuation, Residence Assistants can leave but Residence Life professional staff members, non-student staff, are considered essential staff and are required to stay and assist students. At University I, Residence Life employees are required to complete training, but the respondent was unsure if this included all of the Residence Life staff, particularly the Resident Assistants. However, Residence Life does prepare residents for emergency situations through providing residents with information and exercising practice drills. Residence life is expected to assist residents, but they are not solely responsible. Residence Life employees at University J are required to complete training, including Resident Assistants, however, it was reported that Resident Assistant training is not as extensive as the training professional staff receives.

3.2.4 Student Involvement. The participant from University A was not aware of the student role in emergency planning and stated that students are seen more as recipients of the plans that have been established. The needs of

students are taken into account and students are represented through Student Affairs and Residence Life. The respondent was also not aware of any Student Government involvement in emergency planning and said that students have not been invited to form an advisory committee for emergency planning. At University B, students serve on the disaster preparation committee, as do members from Student Government. Additionally, there are representatives from all sectors of student housing. In this sense students are already part of an advisory committee. At University C, neither students nor Student Government are involved in emergency planning. However, while not involved in planning, Student Government is provided with emergency information to cover plans and current information. Students are not invited to form an advisory committee for emergency planning. University G does not involve students in the emergency planning process. Although Student Government receives some training, it does not play a formal role. Students are not invited to form an advisory committee. However, there is in an opportunity for engagement as students can be involved to the extent that they want to be; if they would like to play a more active role the university would welcome it. University I reported that there are student representatives on the campus safety committee, Student Government is involved in emergency planning and students are invited to form an advisory committee. More specific details were not covered. University J students have not been involved in emergency planning from the beginning phase for the reason that plans are already in place, but students are brought in as needed. Students are represented through Student Government and the student body

president is invited to attend crisis management meetings. In addition, Student Affairs is present and brings along student leaders within the university. Students are not invited to form an advisory committee.

3.2.5 Assessment of Students. Participants from each university reported that efforts had not been made to assess students' hazard knowledge and perceptions. University A reported that no formal efforts have been made to assess students, but informal communication takes place by means of dealings through incidents that occur, during the orientation process and residence life hall meetings with residents. At University B, no formal research have been conducted to assess student perception stating that the hope is that representatives make an effort to assess and bring back the right information. University C reported that efforts have not been made to assess students. University G referenced that the university participates in the EBI studies, an national educational bench marking tool, every 2 years in which students are asked questions about awareness and safety, but the university does not make any efforts beyond this and there has been no formal assessment of student perception. Additionally, efforts have not been made to assess students at University J. According to the respondent, the university makes it a point to communicate with students and operates under the perception that most students are from Florida and understand the reality of hurricanes.

3.2.6 Emergency Warnings in Foreign Languages. University B was the only participating university that reported offering emergency warning systems in different languages. The rest of the universities do not offer warning systems in other languages since English competency is assumed, as international students have to pass an English proficiency test before enrolling at the university. At University B, all emergency information is made public and housing provides documents in the 5 most pervasive languages at the university other than English. Furthermore, select warning systems push out English and Spanish messages. Most of the graduate housing is comprised of international students with their families. The university takes into account that while students have to pass an English proficiency test, their families do not.

3.2.7 Requirements of Students to Live on Campus. University A requires all FTIC students to live on campus; however, if they live in the immediate area they can request an exemption. University B does not require any students to live on campus. University C does require certain students to live on campus. University G does not currently require any students to live on campus, but during the 2012 school year all FTIC students will be required to live on campus no matter where they live. University I does not require any students to live on campus, nor does University J. However, University J did acknowledge that first year athletes typically do live on campus and some athletic programs may prefer, or require, first year athletes to live on campus.

3.2.8 Mutual-aid Agreements with Outside Universities. University A was not aware of any formal mutual-aid agreements with universities. University B conveyed that there are inter-institutional agreements in place, and the university will always come to the aid of another institution. However, the respondent was unaware of any formal mutual-aid agreement between the entire SUS. University C reported not knowing if there were any mutual-aid agreements in place with outside universities. While acknowledging aid would happen, the respondent was unsure if anything is formally written down. University G reported that all SUS schools have a mutual-aid agreement. University I proclaimed that it does have mutual-aid agreements in place with outside universities but did not state with whom. Additionally, University J was not aware of any formal mutual-aid agreements with outside universities, but assumes that this is something that would just occur.

3.2.9 Emergency Housing Plans. University A has identified alternative shelter locations for students if emergency housing was needed and would look into the community dependent of the degree of housing needs. It was unclear if any plans had been formally discussed with the community. University B has agreements in place with local apartment owners for emergency housing should it be needed. University C does not have any formal housing plans in place, referencing that the dorms are very thick and newer dorms are hurricane rated so the hope is that loss would not occur. If emergency housing should be needed that is something the university would figure out when it happened. University G

disclosed that it has mutual-aid agreements in place with outside entities, including hotels/motels, for emergency housing and residence life. University I did not know if the university had any plans in place for emergency housing should it be needed. University J reported that plans for emergency housing had not been determined and it is something the university would deal with at the time.

3.2.10 Personal Plans of Key Personnel. Universities B and C reported that key personal have plans for themselves and their families, while universities A, G, I and J reported that they are encouraged to. University A reported that key personnel are recommended to have their own emergency plans for themselves and their families but it cannot be guaranteed if they do. University B reported that all personnel who work in the emergency operations center have a plan. Each member has a cot, pillow, sleeping bag, and go-bag filled with all the essential hygiene products, a few days worth of clothes and medications that might be needed. Each person is aware of what they need and it is ready to go. The university makes sure that all key personnel have this. While University C reported that all key personnel have personal plans, no information was disclosed on how this is known. University G encourages key personnel to have their own plans through training. University I also encourages key personnel to have their own plans but acknowledged that it is not something that is actively checked. University J encourages key personnel to have plans as well and

asserts that to the knowledge of the university those considered to be key personnel have plans for themselves and their families.

3.2.10.1 Summary of Student Affairs Interviews. For the most part, only those who are considered to be essential personnel are required to complete preparedness training. However, employees are provided with information on emergency preparedness and operation procedures during new employee orientation. On the other hand, Residence Life employees are required to complete training, specifically those who are live-in staff.

In regards to student involvement in emergency planning, of the six universities that participated three reported student involvement and three reported no student involvement. For the universities that reported involvement, students sit on committees dedicated to emergency preparedness and campus safety, and Student Government plays an active role. However, none of the universities have made efforts to assess students' hazards knowledge and concerns.

The majority of universities interviewed do not offer emergency warning systems in different languages given that English competency and ability to understand warning systems is assumed. However, University B recognizes there are international students who live on campus with family members who may not understand English. Taking this into account, university housing provides

documents in the five most pervasive languages at the university other than English and selects warning systems push out English and Spanish messages.

All participants were aware of university requirements for students to live on campus. The existence of a formal mutual-aid agreements between the SUS is still unclear, with four out of the six universities being unaware of formal plans and one not specifying what universities mutual-aid agreements were in place with. Two universities reported having plans for emergency housing with local apartment owners and hotels/motels in the local community and two reported not having any emergency housing plans in place and is something the university would deal with as it happened. One university reported not knowing if there were plans for emergency housing in place. The other had identified alternative shelter locations to use as emergency housing and said that the university would look into the community dependent of the degree of housing needs, but it was unclear if formal agreements had been made. Some mentioned that if there were extensive damage to residence halls, most likely there would be extensive damage to university as a whole, and if this were the case, the university would, in all probability, be closed for a period of time.

3.3. Residence Life Interviews

Seven interviews were conducted with Residence Life Offices (Tables 11 & 12). The residence life interview questionnaire is included in Appendix F. Table 15 exhibits the areas of concern that emerged during the interviews Generalizations

of key discussion points were summarized into a table and is provided Appendix G. Among those who participated, there was a lack of knowledge or consideration found in the following areas:

- Knowledge of shelter locations
- Preparation of residents
- Awareness of residents
- Resident involvement
- Assessment of residents
- Emergency housing plans
- Personal plans of key personnel

Table 15. Residence Life Interviews

Residence Life Interviews							
	A	B	C	E	F	G	I
Knowledge of university shelter locations	Yes/ No	Yes	Yes	Yes/ No	Yes	Yes	Yes/ No
Has the university prepared students	No	Yes	Yes	Yes	Yes	Yes	Yes
Are students required to live on campus	Yes	No	Yes	Yes	No	No	No
Do international students live on campus	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Do special needs students live on campus	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Awareness of residents with special needs	Yes	Yes	Yes	No	Yes	Yes	Yes
RLCs made aware of international students residing in halls	No	No	Yes	No	Yes	Yes	No
RAs made aware of international students residing in hall	No	No	Yes	No	No	Yes	No
Are residents accounted for during emergencies	Yes	No	Yes	Yes	Yes	Yes	No
Are residents represented in emergency planning	Did not know	Yes	No	No	Yes	No	Did not know
Are residents invited to form an advisory committee for emergency planning	Did not know	Yes	No	No	Yes	No	No
Residents knowledge and concerns assessed	No	Yes	No	No	Yes	Yes/ No	No
Emergency housing plans in place	Did not know	Yes	No	No	Yes	Yes	Yes
Key personnel have plans for themselves and their families	Enc.	Enc.	Yes	Enc.	Enc.	Enc.	Enc.

Note: Highlight indicates concern. Enc. = Encouraged. RLC = Residence Life Coordinator. RA = Resident Assistant.

3.3.1 Knowledge of Shelter Locations. Four universities were knowledgeable about university shelter locations, while three universities were unsure about certain aspects. The Residence Life representative from University

A knew where the official shelter location for students is, but did not know where the special needs shelter was located. At University B, residence halls are the shelters for campus residents and there are additional shelters for off-campus students, staff, faculty, family members and the surrounding community. Residents with special needs are already housed where there are accommodations for theirs needs. University C was aware of shelter locations and the main campus shelter has a separate room set aside to accommodate individuals with special needs. University E reported that the university does not have a university shelter and the university does not shelter in place. Residents would be instructed to go to the Red Cross shelter that is located across the street from the university. Additionally, the university does not have a special needs shelter reporting that the county has one about 20 miles north of the campus that university would utilize. However, the respondent disclosed that the university recently found out that people have to complete prior registration in order to go there. University F has a shelter on campus for students and is also used to accommodate those with special needs. In addition there is an additional Red Cross shelter located on campus that is meant for the community but could be used for students as well. University G does not have a designated shelter on campus, but has adopted a Red Cross shelter facility a few miles off campus. This facility is set up to accommodate special needs individuals as well. University I reported that many of the residence halls are hurricane resistant and can be used as shelters, however, the participant did not know if the university has a shelter for special needs individuals.

3.3.2 Preparation of Residents. When asked if they felt the university had done an adequate job preparing residents for hurricane season, University A reported no, while universities B, C, E, F, G, and I all reported yes. The participant from university A did not give any details other than he/she did not feel the university had prepared residents. University B reported that there is great communication between the university and residents. Residents are actively engaged and the university is specific with residents on what they can do to prepare and what to do in emergency situations, providing examples for them. University C provides residents with information during orientation and then again during court meetings with residence life. At University E, Residence Life arranges a safety week in housing and floor meetings are held to cover emergency information. University F provides residents with information during orientation and through floor meetings as well. At University G, housing holds mandatory meetings with Residence Life to prepare residents. Hurricane preparation documents are made available and students are briefed on emergency plans and procedures during orientation. University I reported feeling that the university prepares residents for other hazards such as fires, better than they do for hurricanes given that most students are from Florida and are familiar with hurricanes. Nevertheless, the university makes it a point to try to educate residents on what to do in crisis situations.

3.3.3 Awareness of Residents. Three universities have requirements for students to live on campus, and four do not. Every university reported that both

international students and special needs students do reside on campus. For the most part, international students are not restricted to certain residence halls and are free to choose where they would like to live. At some universities, international students live mostly in graduate and family housing. Those with disabilities or other special needs are free to live within the limits of where accommodations can be made.

At University A, Residence Life is only made aware of residents with special needs if individuals bring it to its attention; the university does not do anything to bring international residents to the attention of Residence Life Coordinators and Residents Assistants. Residence Life Coordinators and Resident Assistants might be aware of international residents but only through looking at the rosters and interacting with residents. University B develops a very specialized list of where residents with needs are living and residence halls are provided with this information. The participant said Residence Life is very knowledgeable of its resident population and reaches out to residents in the beginning of each semester to talk about emergency information and to see what the university can do make residents feel comfortable. The university does not develop a roster of where international residents are living, reporting that Resident Assistants form relationships with their residents and tend to develop a list themselves of where residents are from. University C responded that Residence Life Coordinators and Resident Assistants are made aware of international residents and residents with special needs living in their halls stating that residents generally have a very

close relationship with their Resident Assistants. At University E, Residence Life Coordinators and Resident Assistants are not specifically made aware of international and special needs residents residing in their hall. It is assumed that Residence Life Coordinators and Resident Assistants know those students. University F does a demographic study at the beginning of each semester so staff can identify those who may need assistance. This information is also provided to university police so they can coordinate response efforts. Residence Life Coordinators are made aware of international students through the demographic study and during move-in. Resident Assistants are not provided with a roster of international residents living in their hall but Resident Assistants are used to facilitate check-ins as part of their job. Additionally, it is part of the Resident Assistant's responsibilities to get to know their residents. University G voiced that the university makes it a point to know which residents have disabilities and who is international. The university's disability resource center works closely with these residents to make sure their needs are met. Resident Life staff identifies international residents and those with special needs. University I expressed that Residence Life has made more of an effort to be aware of residents with ADA accommodations than international residents; staff are always informed of where these individuals live. The participant expressed that while Residence Life makes an effort to reach out to international students to make sure language barrier issues are taken care of, this could be done better.

According to the interviews, in the event of campus evacuation four universities make efforts to account for residents while two do not. At University A, residents would be accounted for with the use of rosters. University B reported that there is currently nothing in place to account for residents during an evacuation, however, the university is working with consulting agencies for campus emergency management and is addressing how to improve on this. University C accounts for students, but not very well. Given that it is a smaller school, Residence Life reportedly has a good sense of who stays and who leaves. University E reported that Residence Life would account for residents during an evacuation and collect information again as residents come back to ensure everyone is accounted for. At University F, during an evacuation Resident Assistants are responsible for door-to-door notifications to inform residents when the university will be closing the residence halls. Once students are evacuates, Resident Assistants check each room to make sure no one is still present and half-key all doors. This jams the door locks and prevents students from entering during the event and ensures that residents are not able to re-enter without checking in. The university does not keep track of where students are going, but does keep track of those who check into the university shelter. During an evacuation, University G asks all residents to fill out a form stating where they are going and whom they are going with. University I reported that nothing is done to account for residents during an evacuation.

3.3.4 Resident Involvement. University A reported not knowing if campus residents are represented in the emergency planning process, but there is a residence hall association that is comprised of mostly students. Campus residents have not been invited to form an advisory committee, but they would be welcome to if they wanted. At University B, campus residents are represented through housing and hold three seats on the disaster preparation committee. University C does not invite residents to form an advisory committee and residents are not represented in the planning process. No resident is sitting on the emergency planning team at University E and residents are not specifically represented in the planning process. Residents would be represented through Student Affairs and Housing. University F voiced that student involvement is always sought and Resident Assistants are utilized in this aspect. Housing has a representative on the crisis management team and there are residents sitting on the safety security committee. At University G, residents are not represented in emergency planning and though residents are not invited to form an advisory committee, they are welcome to be involved if they desire to. University I does not invite residents to form an advisory committee and the representative did not know if residents are represented in the emergency planning process.

3.3.5 Assessment of Residents. At University A, efforts to assess residents' hazard knowledge and concerns have not been made. University B professed that the university does bench-marking studies to assess residents about personnel safety in addition to informal post-disaster assessments which

ask residents about their feeling on procedures and events that took place. University C does not assess residents nor does University E. However, University E does look at the EBI survey, which asks questions on the subject of how safe students feel. Every year, University F conducts a resident satisfaction survey, which includes everything from customer service to safety questions, in an effort to assess residents' perceptions. University G does not assess residents but does partake in the EBI study every two years. Additionally, University I does not assess residents in regards to hazard knowledge and concerns.

3.3.6 Emergency Housing Plans. One representative did not know if the university had emergency housing plans, two universities reported not having emergency housing plans, and four universities do have emergency housing plans. The Residence Life representative from University A was unsure if there is a housing plan in place in the event that university housing is lost. At University B the housing plan would be situational to the magnitude of loss. The university would first try to accommodate students in current campus facilities before reaching out to the community to utilize existing agreements for housing. University C has no formal housing plans in place. Additionally, University E does not have any formal plans for emergency housing, specifying that the university would try to put as many students as possible into empty spaces throughout the university and would contact local hotels for accommodations. In the event university housing was lost, University F reported that the university

would first work with the Red Cross to set up student shelters and then contact FEMA if damage was extensive, but there appears to be no formal plans in place. University G has mutual-aid agreements in place with local hotels and motels for emergency housing. At University I, emergency-housing plans would be dependent on the magnitude of the loss. The university would try to put students in existing residence hall space first and has lounges that are prepared to be set up for emergency housing. The university would then reach out to local hotels if needed.

3.3.7 Personal Plans of Key Personnel. University A did not know if key personnel have their own emergency plans, but they are encouraged to. University B strongly encourages all to have plans for themselves and their families, but stated that crisis management is a young aspect of university planning. University C reported that all key personnel have plans but did not provide any specifics on how this is known or accomplished. University E voiced that key personnel are supposed to have plans for themselves but that is as far as it goes. Having been impacted by a hurricane not too long ago, University F strongly encourages all to have their own plans and has had a very consistent message for how to make plans for themselves and their families and stresses the importance of this. University G encourages key personnel to have plans through training. The respondent from University I disclosed that all are encouraged to have their own plans but does not think key personnel actually do

saying that they probably have a general idea of what they would do but are most likely not prepared to do so.

3.3.7.1 Summary of Residence Life Interviews. Four universities were knowledgeable about university shelter locations, while three universities were unsure about certain aspects. University A was unsure of the special needs shelter location. While knowing what shelters would be used, University E seems to have failed to coordinate with these locations. University I was also unaware if the university had a shelter for those with special needs.

With the exception of one university, all felt the university had a done a sufficient job preparing residents for the hurricane season. Universities mainly educate and provide residents with emergency information during orientation and through residence hall floor meetings. One university felt residents are better prepared for other hazards, such as fires. All universities are aware that both international and residents with special needs do live on campus and are aware of university requirements to live on campus. At all universities, international students are free to choose where they would like to live and those with disabilities are free to live within the limits of where accommodations can be made.

With the exception of one university, all make it a point to be aware of residents with special needs residing on campus. Meanwhile, only two universities make a point to raise awareness of international students residing in residence halls.

Universities seem to operate under the assumption that it is the responsibility of Residence Life staff to know their residents and Residence Life staff would identify these residents for themselves.

Two universities do not make efforts to account for residents in the event of a campus evacuation. The universities that do use rosters, hall sweeps, collection of information on residents as they return, and through maintaining a record of those who check into university shelters. Furthermore, one university reporting having residents fill out forms stating where they are going and whom they are going with.

Overall, it appears that residents are not directly involved in emergency planning and their representation is uncertain. However, two universities do actively seek resident involvement where residents sit on safety security/disaster preparation committees and housing holds seats on crisis management teams. Although four universities reported no resident involvement in emergency planning, two mentioned that residents would be welcome to become more involved should they desire. Two universities make it a point to assess residents in some fashion. One conducts benchmarking studies and informal post-disaster assessments. The other administers resident satisfaction surveys, which include safety questions. However, it was not clear if these address specific hazard perceptions.

One representative did not know if the university had emergency housing plans, two universities reported not having emergency housing plans, and four universities do have emergency housing plans. For those that do not have plans, they would first try to accommodate residents in existing campus facilities before reaching out to the community if needed. The others reportedly have existing agreements in place with hotels/motels and apartment owners in the community. Key personnel are encouraged to have plans but universities seem unsure if they actually do.

3.4 Supplemental Information

This section covers additional points discussed during the interviews that were not covered in previous sections. It is important to cover this as well in order to obtain a better perceptive of university emergency planning. It does not cover information addressed in previous sections.

3.4.1 University A. At University A, evacuation depends on the situation and for hurricanes, it would be conditional to the dynamics of the storm. According to Residence Life, if a category two storm were approaching residents would be encouraged to leave and evacuation would become mandatory at a category three. In contrast, according to the Student Affairs representative, the university would evacuate and close for a category four storm and above. If an evacuation were to occur, those on campus would be given as much prior warning and time as possible to leave. The campus is prepared to be self-

sustainable for 3-5 days depending on consumption. During an evacuation the university will try to minimize the number of individuals on campus aiming to keep key personnel only. Students are encouraged to join the text-message warning system to receive alerts and receive information through orientation, where they are referred to the website, open forums and computer based training; there is a module students are required to complete. Residents are reinforced with information during hall meetings. In addition, there are stickers placed on the back of residents' doors with emergency and evacuation instructions. Warning systems include a text-messaging system, sirens across campus, which can also push through voice messages, digital displays, email, university website and Student Information Systems (SIS). All residence life employees are required to complete training and are educated on university emergency operation procedures. Residence Life Coordinators and higher staff receive first responder training. Duties of residence life staff during an emergency depend on the event. Senior staff would be expected to use training to handle the situation. Staff are expected to take direction from upper-level administration and to have up-to-date rosters available. Only professional staff are expected to stay on campus and assist residents, no student or graduate staff.

3.4.2 University B. For University B, closure and evacuation of the university depends on the situation. As soon as danger is indicated and the ability for people to move on and off campus is affected, the university would close. For hurricanes, the university would try to evacuate three days out. Shelter

locations and many other buildings on the campus are hurricane resistant and residents would most likely shelter in place. The university has trained shelter operators.

Text message warning systems are tested at least twice a year. Warning and contact systems at the university are opt-out, not opt-in, and every student has to provide emergency contact information prior to registration every term. Students are provided with information on how to access crisis information during orientation. The university has paper, personal and electronic communication methods in place.

The university is aware of the demographics of its students and if an event were to occur elsewhere in the country or globally, the university would run a check through the system to see if any students are from the impacted areas and reach out to make sure they can contact home and their family. The university has a network of counselors to be available both during and after an event.

During emergencies, residence life is expected to assist residents and maintain as much of a normal staffing pattern as possible; this does not include Resident Assistant student staff. Resident Assistants would be allowed to leave during an evacuation; only individuals considered to be professional staff are expected to stay.

3.4.3 University C. At University C, evacuation is dependent on the situation. For hurricanes, the university would evacuate when the storm is stronger than a category three. If a category five storm were coming to the area, those who stayed in the campus shelter would be transported to a different shelter. Students are provided with emergency information at orientation, through the university website, and during court meetings with Residence Life. In the event of an emergency, the university webpage is taken over by emergency information. Residence Life is required to inform, prepare and assist residents. Residence Life staff is required to stay with residents all the way through the crisis event to make sure everyone has evacuated and to calm fears and anxiety while at the shelter.

3.4.4 University E. University E would close and evacuate for a category two storm and above at least 24 hours in advance. Hall meetings would take place to prepare for closure and residence life would collect contact information from all residents who choose to leave. Only full time Residence Life professional staff are expected to stay on campus to assist residents. Hurricane guides are distributed to all residents in the beginning of summer and fall semesters. Information is provided to residents in the housing handbook and during floor meetings. Residents have access to additional information through the university website.

3.4.5 University F. University F would close and evacuate for a category one hurricane and above and would try to evacuate at least one to two days before landfall. The university is prepared to be self-sustainable for ten days and has a diesel tank with back-up fuel for generators. University shelters are staffed with residence life employees, police and clinic staff. When warning messages are sent out, additional information on what to do is included in the message. The university internet system is set-up to go straight to the emergency management website in times of crisis no matter what department homepage is being accessed. Before hurricane season, messages are sent out to all student and faculty members informing them of risk and instructing them on how to prepare. From the beginning of the semester, starting at orientation, the university tries to work with students to create a hurricane plan so students start to think about where they would go. Residents are provided with information during orientation and floor meetings and are communicated with through text-message, email, speaker systems, and through direct communication with Resident Assistants. Resident Assistants are not kept through the duration of a crisis and after initial duties are completed they are free to leave with the other residents. Resident Hall Directors and above are responsible to stay and assist residents and to make sure everyone makes it to a shelter. Residence Life professional staff would be the last to be released, some staff stays in the university shelter through out the shelter.

3.4.6 University G. Evacuation plans for University G are driven by the incident and the university would evacuate for a category two storm or greater. The university has trained shelter managers. During an evacuation, Resident Assistants are free to leave but professional staff are required to stay and assist residents. The residential community is prepared to be self-sustainable for 3-4 days and there is auxiliary generated power in all buildings for light function.

The university utilizes opt-out instead of opt-in warning systems and students have to provide contact information when registering for classes. Hurricane preparation documents are made available and students are briefed on emergency procedures and plans during orientation where they are also made aware of the resources available to them. There is an additional website set up to cover emergency information in the event that university website crashes. Academic affairs is currently working on an alternate curriculum plan for students in the event that a disaster were to occur and distance learning is being put together in case a catastrophic disaster takes place so students do not have to loose a semester of college.

3.4.7 University I. In the event of a hurricane, a campus wide evacuation would not take place at University I. Classes would be cancelled and residents would be given the option to go home, otherwise Residence Life would adopt a shelter in place method and halls would be consolidated for management purposes. The university does not advertise what additional buildings would be

used as shelters, because the university does not want outside community members seeking shelter with the university. The university has an agreement with the county that the university will not fill the county shelter and the county will not seek shelter with the university. The campus is prepared to be self-sustainable for about a week, including medical and security needs.

During orientation, the focus is to make sure students understand the alert system and where they can go to get information. Students are provided with information on emergency plans and policies, but not procedures. International students have their own orientation, as do students registered with the Student Disability Resource Center. Both international and students with disabilities have a counselor who they are assigned to who they are instructed to reach out to if they do not understand what is going on or need additional assistance. Residents are provided with information through housing. The website is extensive and many methods of emergency communication are in place including sirens, text messaging, email, twitter, facebook. Students are inundated with information through multiple outlets to make sure no one is left out. Every semester students have to update their emergency contact information before they will be permitted to register for classes. For university students who are studying abroad, if something were to occur in the country they are studying in, the university has plans to evacuate or reach out those individuals. If a hurricane were moving towards the area, Residence Life would call a staff meeting to discuss the protocol. Residence Life professional staff, and Resident Assistants,

are expected to inform residents of emergency situations and to stay and assist residents. Staff would be released as the situation developed.

3.4.8 University J. University J would evacuate when at risk for flooding and wind damage and in some instances would consider closing for a tropical storm. The university would keep individuals informed on the threat as the situation develops, and provide notice of when to leave. Students are constantly updated on the status of a current situation as it develops and are informed on what to do. During orientation students are made aware of how the university will communicate with them, and they are provided with general information and where more emergency information can be obtained. The international office makes sure to provide international students with emergency information and to explain hurricanes and other risks.

3.4.8.1 Summary of Supplemental Information. For all universities, evacuation is dependent on the situation and varies between universities, but as soon as a threat is known individuals will be given as much time as possible to evacuate campus. Universities are prepared to be self-sustainable for a number of days, though only two universities' extends to 7-10days. For the most part, it seems only professional Residence Life staff members are required to stay and assist residents during an evacuation, no student or graduate staff.

Students are reportedly provided with information and directed to where to find information during orientation and residents are reinforced with information during floor meetings. All universities provide additional information on university websites. Warning systems include: text-message systems, sirens, audio speakers, digital displays, email, university websites, SIS, direct communication, twitter and facebook. Some reported that in addition to notifying students of an event warning systems are set up to also direct them on what to do. During an emergency, some university websites are taken over by emergency information, one even reporting having an additional website set up to cover emergency information in the event that university website crashes. A number of universities reported utilizing opt-out as opposed to opt-in warning systems and require students to provide contact information each semester prior to registering for classes.

One university disclosed that international students and students registered with the Student Disability Resource Center have their own orientation in which they are educated on risks and provided with emergency information. At another, the International Office appears to reach out to international students to provide emergency information and educate them of risks. Additionally, there are universities that take note of crisis situations that take place around the country and world and make an effort to reach out to students who may be from the particular area, extending to university students studying abroad.

3.5 Ease of Access

While conducting the interviews it became apparent that the main resource students are referred to for information on university emergency planning and preparedness is the university website. Given this, there is speculation over how readily accessible this information is and what steps students would have to take to locate this information. For this reason, it was decided to search each university website and go through the steps students would have to take to find emergency information. Table 16 summarizes these data, along with university participation, and whether or not schools had direct links to emergency information on their homepage. The initial step of accessing the university homepage was not counted.

Four universities had direct links to emergency information located on their university homepage, and seven universities did not. The number of minimum steps required to reach emergency information ranged from one to five. Steps for participating universities ranged from one to four, while steps for universities that did not participate ranged from three to five.

Table 16. Ease of Access to Emergency Information

Ease of Access to Emergency Information				
University	**Participation**	**Number of Office Participants**	**Direct Link**	**Number of Steps**
A	✓	3	✓	1
B	✓	2	-	3
C	✓	2	-	3
D	-	-	-	5
E	✓	1	✓	1
F	✓	2	✓	1
G	✓	3	✓	1
H	-	-	-	4
I	✓	3	-	2
J	✓	1	-	4
K	-	-	-	3

Table 17. Ease of Access to Emergency Information by Participation

Ease of Access to Emergency Information by Participation.				
	Three Offices	**Two Offices**	**One Office**	**None**
Number of Universities	3	3	2	3
Number with Direct links	2	1	1	0
Minimum Number of Steps	1-2	1-3	1-4	3-5

Table 17 organizes ease of access to emergency information on university websites by participation. Of the three universities that had participation from all three of the contacted offices, two had direct links to emergency information on university homepages. The minimum number of steps to attain emergency information ranged from one to two. One of the three universities which had participation from two offices had a direct link to emergency information on the

university's homepage. The minimum number of steps to arrive at emergency information varied from one to three. One of the two universities with participation from one office had a direct link to emergency information on the university's home page. The minimum number of steps to reach emergency information ranged from one to four. All three of the universities that did not have participation from any the contacted offices did not have direct links on university homepages for emergency information. The minimum number of steps to arrive at emergency information ranged between three to five. It seems that as participation increased, the number of steps to reach emergency information decreased. Conversely, as participation decreased, the number of steps to reach emergency information on university websites increased.

Three of the four universities with participation from Emergency Management Offices had direct links to emergency information on university homepages. The number of minimum steps needed to attain emergency information ranged from one to two. Two of the six universities with participation from Student Affairs Offices provided direct links to emergency information. The minimum number of steps required to reach emergency information varied from one to four. Four of the seven universities with participation from Residence Life Offices included direct links to emergency information and the minimum number of steps to arrive at emergency information ranged from one to two. It appears that universities with participation from Emergency Management Offices were more likely to have direct links to emergency information on university home pages (Table 18).

Table 18. Ease of Access by Office Participation

Ease of Access by Office Participation			
	Emergency Management	**Student Affairs**	**Residence Life**
Number of Universities with Participants	4	6	7
Number of Universities with Direct Links	3	2	4
Percentage of Universities with Direct Links	75.0	33.0	57.0
Minimum Number of Steps	1-2	1-4	1-2

3.5.1 Ease of Access Summary. Four universities had direct links to emergency information located on their university homepage, and seven universities did not. Universities that participated in the study tended to have fewer steps than those that did not participate. As office participation increased, the likelihood of direct links increased and the number of steps to reach emergency information decreased. As participation decreased, the likelihood of direct links decreased and the number of steps to reach emergency information increased. Universities with participation from Emergency Management Offices appear to be more likely to have direct links to emergency information on the university homepage.

3.6 University Classifications and Participation

This section summarizes the universities in each classification, which universities participated, the number of interviews conducted, university participation rate and interview response rates for each category. Each university in each category had the opportunity to participate in three interviews, one for Emergency Management, Student Affairs and Residence Life Offices.

3.6.1 University Location. As shown in Table 19, universities were classified into eastern, inland or western locations. Three universities were classified as eastern universities; 66.7% participated and there was a 44.4% interview response rate. Four universities were categorized as being inland; 50% participated and there was an interview response rate of 41.7%. Four universities were classified as Western universities; 100% participated with an interview response rate of 66.7%. Participation and interview response rates are shown in Figure 3.

3.6.2 University Size. Table 20 groups universities as large or small-to-medium universities. Six universities were classified as large universities and five were classified as small-to-medium universities. 66.7% of large universities participated and had an interview response rate of 50%. Small-to-medium universities had an 80% participation rate and an interview response rate of 53.3%. Participation and interview response rates are shown in Figure 4.

Table 19. University Location

	University Location		
	Eastern	**Inland**	**Western**
	D E G	B H I K	A C F J
Total Participants	2 66.7%	2 50.0%	4 100.0%
Total Interviews Conducted	4 44.4%	5 41.7%	8 66.7%

Note: Highlights identify university participation.

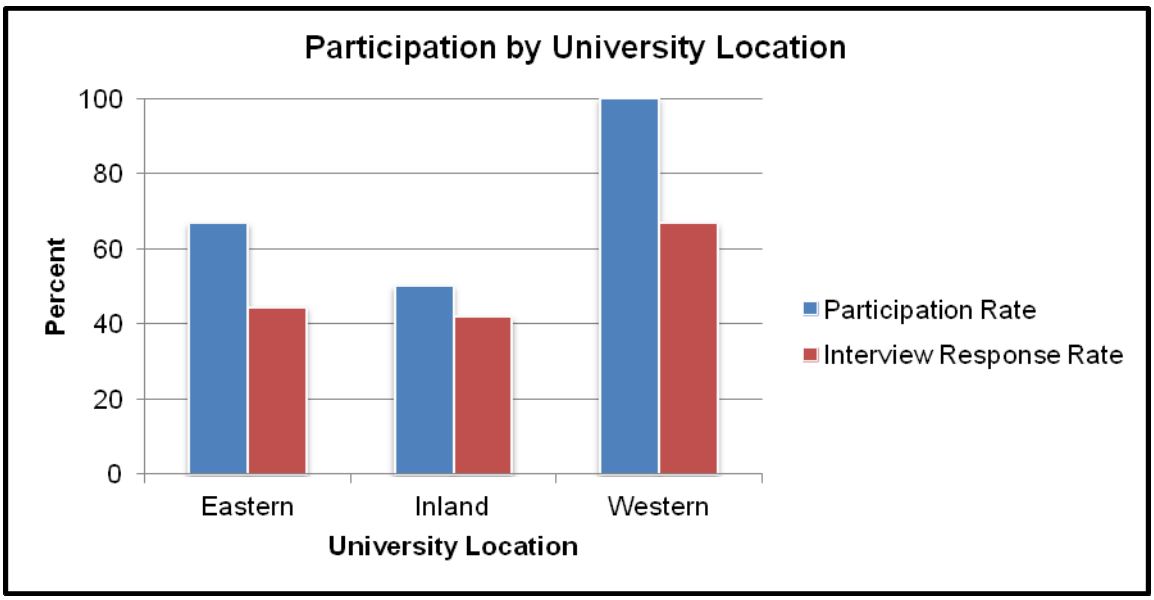

Figure 3. Participation by University Location

Table 20. University Size

	University Size			
	Large		**Small-to-Medium**	
	A B D E H I		C F G J K	
Total Participants	4	66.7%	4	80.0%
Total Interviews Conducted	9	50.0%	8	53.3%

Note: Highlights identify university participation.

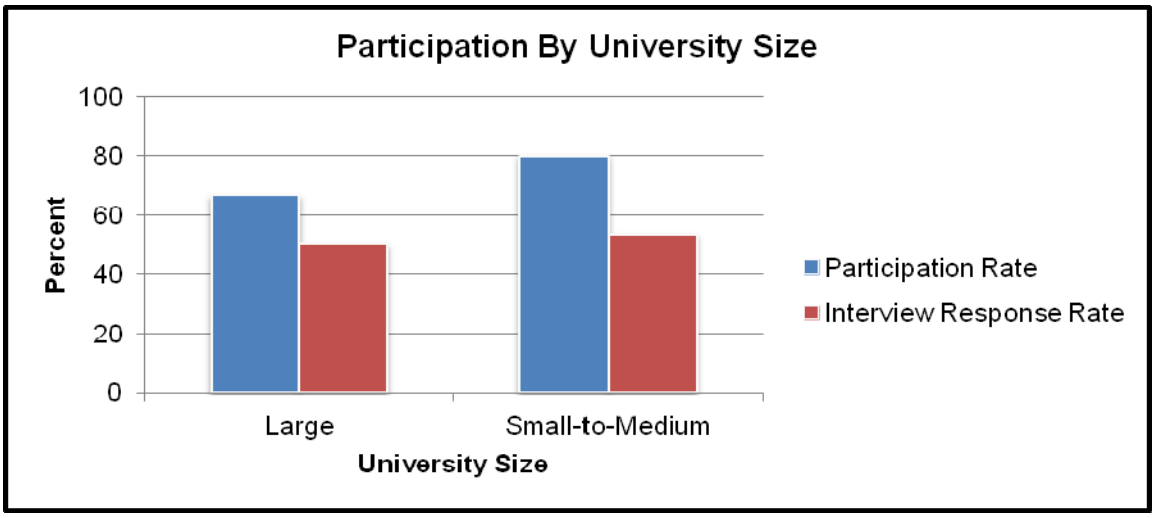

Figure 4. Participation by University Size

3.6.3 University Hurricane Experience. Universities were grouped into having direct experience with two or more, one or zero hurricanes. Three universities have had experience with two or more hurricanes; 66.7% participated and there was an interview response rate of 55.6%. Five universities had experience with one hurricane; 60% participated and there was an interview

response rate of 26.7%. One hundred percent of the universities that have not had experience with a hurricane participated with interview response rate of 88.9% (Table 21). Participation and interview response rates are shown in Figure 5.

3.6.4 University Research Classification. Table 22 categorizes universities as Doctoral Research Universities (DRU), Research Universities with very high research activity (RU/VH), Research Universities with high research activity (RU/H), and universities with other classifications. Universities categorized as 'other' were universities classified as Master's L: Master's Colleges and Universities and Bac/A&S: Baccalaureate Colleges – Arts & Sciences. Universities classified as DRU had a 50% participation rate and a 33.3% interview response rate. Universities classified as RU/VH had a 75% participation rate and a 66.7% interview response rate. Universities in the RU/H category had a 50% participation rate and a 16.7% interview response rate. All universities in the category 'other' participated for a 100% participation rate and an interview response rate of 66.7%. Participation and interview response rates are shown in Figure 6.

3.6.5 University Community Engagement Classification. Table 23 summarizes universities that elected to participate in the Community Engagement classification. Among the six universities that participated in the elective, there was a participation rate of 66.7% and an interview response rate

of 55.6%. The universities that did not participate in the elective had an 80% participation rate and a 46.7% interview response rate. Participation and interview response rates are shown in Figure 7.

Table 21. University Hurricane Experience

	University Hurricane Experience		
	2+	**1**	**0**
	D	B	A
	F	E	C
	I	H	G
		J	
		K	
Total Participants	2 66.7%	3 60.0%	3 100.0%
Total Interviews Conducted	5 55.6%	4 26.7%	8 88.9%

Note: Highlights identify university participation.

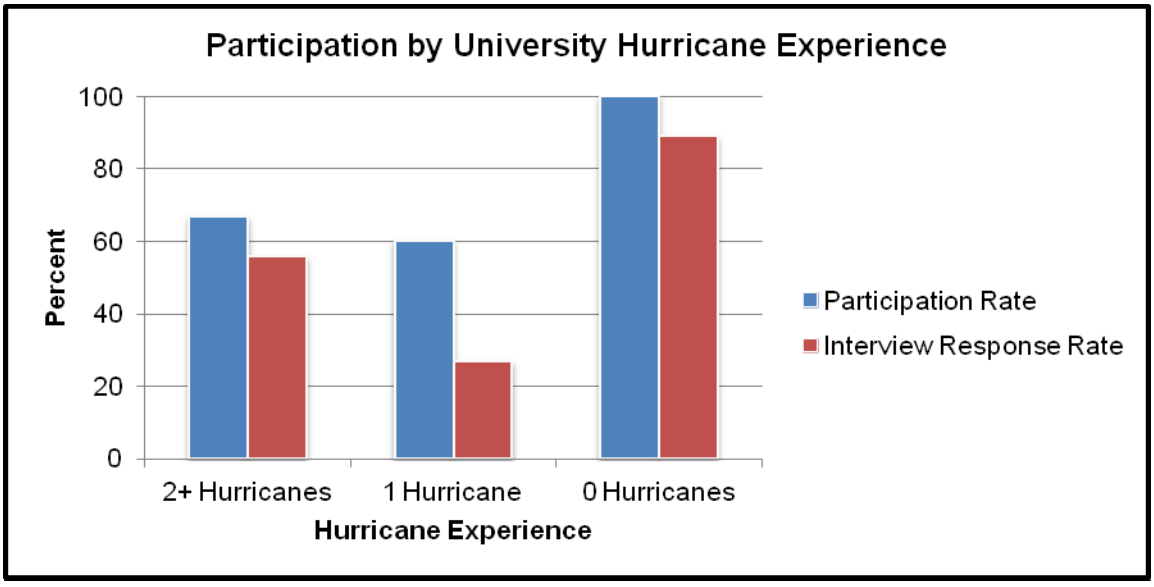

Figure 5. Participation by University Hurricane Experience

Table 22. University Research Classification

University Research Classification				
	DRU	**RU/VH**	**RU/H**	**Other**
	F K	A B H I	D E	C G J
Total Participants	1 50.0%	3 75.0%	1 50.0%	3 100.0%
Total Interviews Conducted	2 33.3%	8 66.7%	1 16.7%	6 66.7%

Note: Highlights identify university participation.

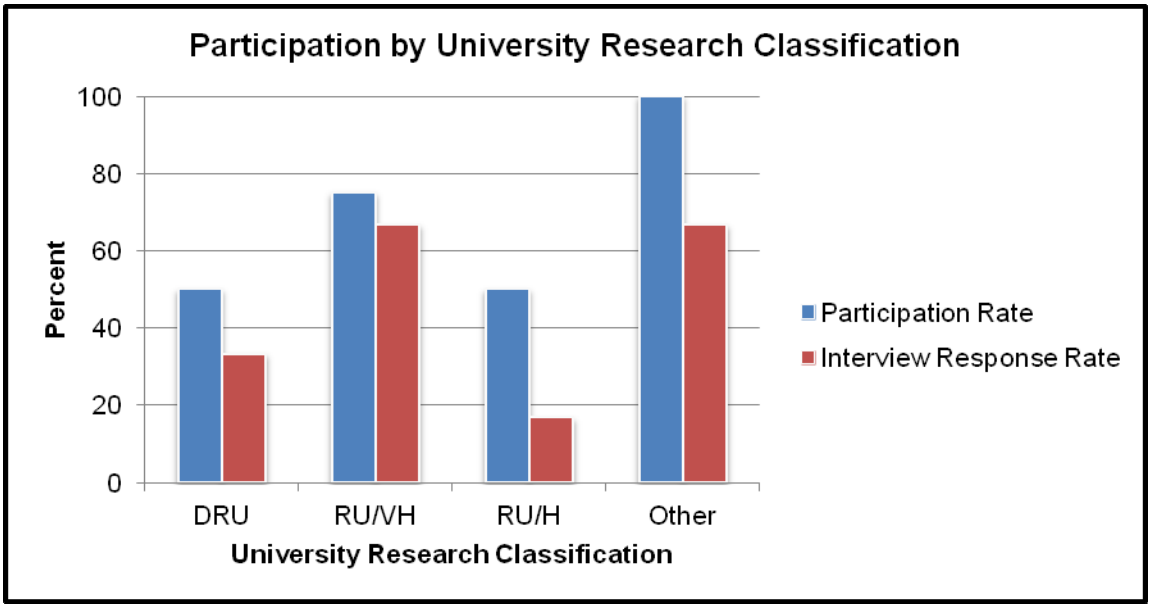

Figure 6. Participation by University Research Classification

Table 23. University Community Engagement Classification

	University Community Engagement Classification	
	Yes	**No**
	A D G H I J	B C E F K
Total Participants	4 66.7%	4 80.0%
Total Interviews Conducted	10 55.6%	7 46.7%

Note: Highlights identify university participation.

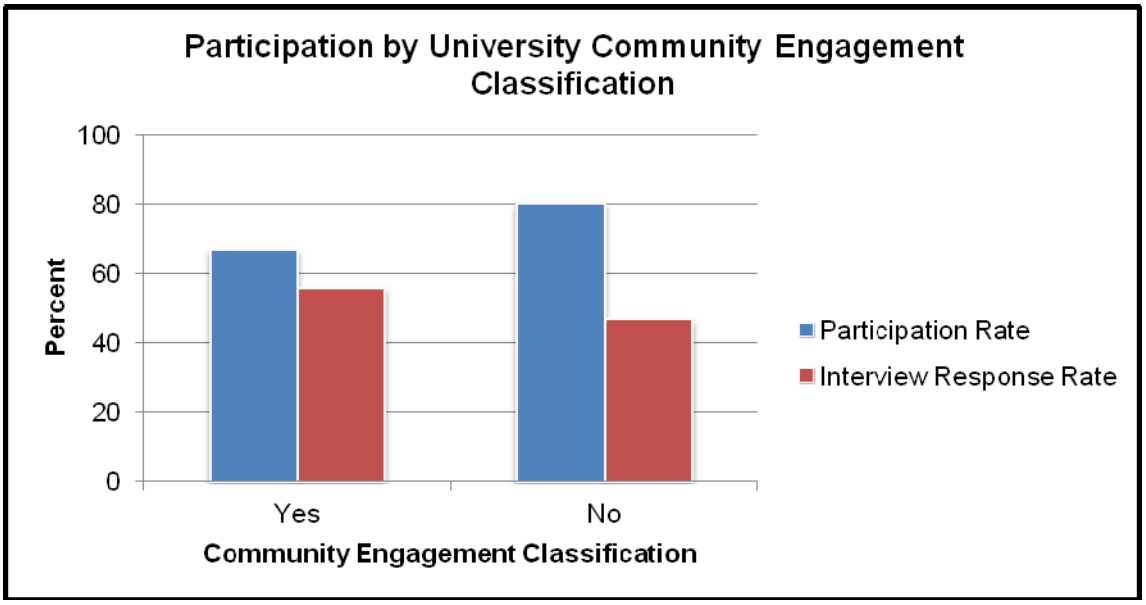

Figure 7. Participation by University Community Engagement Classification

3.6.6 University Storm-Ready Designation. Table 24 shows universities that have been designated as Storm Ready. Six universities have been designated as Storm Ready; 66.7% participated with an interview response rate

of 50%. Universities that are designated 'storm-ready' had an 80% participation rate and an interview response rate of 53.3%. Participation and interview response rates are shown in Figure 8.

Table 24. University Storm-Ready Designation

University Storm Ready Designation		
	Yes	**No**
	A D E F H I	B C G J K
Total Participants	4 66.7%	4 80.0%
Total Interviews Conducted	9 50.0%	8 53.3%

Note: Highlights identify university participation.

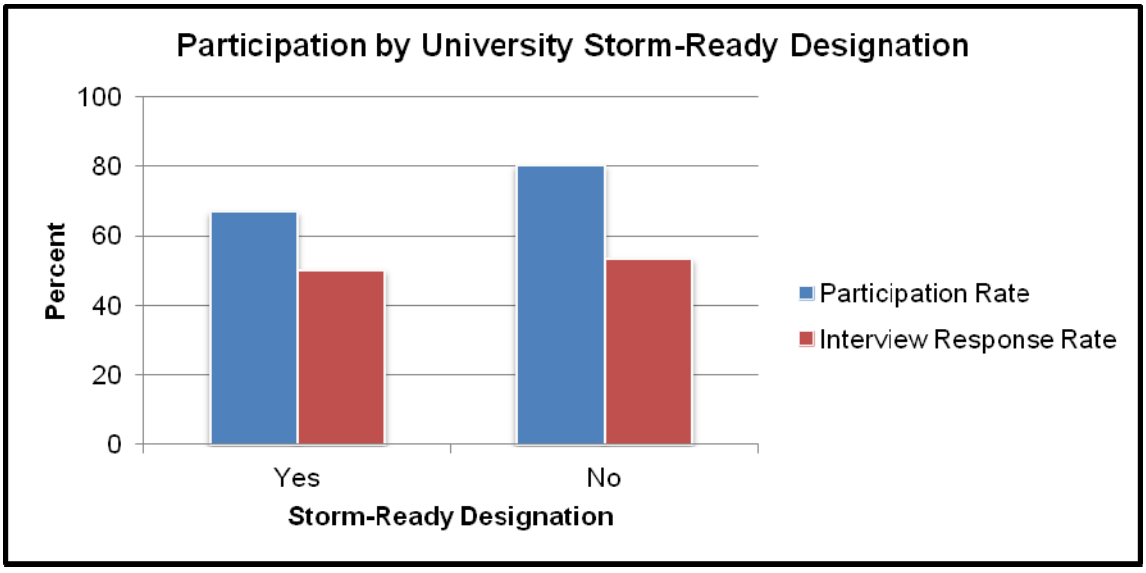

Figure 8. Participation by University Storm-Ready Designation

3.6.6.1 Summary of Classifications and Participation. Western universities had a higher university participation and interview response rate, followed by eastern and inland universities respectively. Small-to-medium universities had a slighter higher participation and interview response rate than larger universities. All universities that have no experience participated in the study and had the highest interview response rates. Universities who have experienced only one hurricane had the lowest participation and interview response rates. Universities classified as 'other' had the highest participation rate followed by RU/VH universities; both had the highest interview response rates. DRU and RU/H universities had the same participation rate, but DRU universities had a higher interview response rate. Universities that elected not to participate in the Community Engagement classification had a higher university participation rate than universities that elected to participate. However, participating universities had a higher interview response rate. Universities that were not designated 'Storm-Ready" had both higher university participation and interview response rates. While each category clearly had differences the most evident differences were found based on location, experience, and research classification.

3.7 Preparedness

For the purpose of this study preparedness reflects the knowledge and considerations, or lack-there-of, given to student needs and wellness and aspects of university emergency planning that impact student vulnerability. In

order to compare differences in preparedness the number of elements that signified that a lack of knowledge or consideration existed were totaled for the individual participants and then converted into percentages for both the office and university levels. Higher percentages reflect higher levels where a lack of consideration existed and imply a lower level of preparedness. Lower percentages imply higher levels of preparedness in regards to student wellness.

3.7.1 Emergency Management Preparedness. Table 25 covers the elements used to rank preparedness among the participating Emergency Management Offices; there were 15 factors in total. University A neglected to consider the fewest elements, 3 out of 15, or 20%, universities G and I both neglected to consider 5 out of the 15 elements, or 33.3% and University F neglected to consider the most elements, 9 out of 15, 60%. The percent average for the offices is 36.7 (Table 28).

3.7.2. Student Affairs Preparedness. Table 26 addresses the 12 areas considered to rank preparedness among the Student Affairs Office interviews. University B neglected to consider the fewest elements, 2 out of 12, or 16.7% Universities G, I and J neglected to consider 50%, 6 out of the12 elements. Universities A and C neglected to consider the most elements, 7 out of 12, 58.3%. The percent average for the offices is 47.2 (Table 28).

3.7.3 Residence Life Preparedness. The twelve elements used to rank preparedness among the Residence Life Offices are shown in Table 27. University F neglected to consider the fewest elements, 2 out of 12, or 16.7%. Universities B, C and G all neglected to consider 4 out the 12 elements, 33.3%. University I neglected 8 out 12 elements, 66.7%. Universities A and E both neglected to consider the most elements, 9 out of 12 or 75%. The percent average for the offices is 47.6% (Table 28).

3.7.4 Preparedness by University Classifications. The following section compares preparedness at the university level between the university classifications defined in Section 3.6. The average percentage of elements that failed to be considered among participating departments at each university was used to rank preparedness at the university level. Table 29 provides a list of these values.

3.7.4.1 Preparedness by University Location. The data in Table 30 indicates that there is no clear pattern of preparedness based on university location. Only when universities are averaged together does a difference appear. On average, eastern universities neglected to consider the most areas, 56.75% and inland universities neglected to consider the fewest with 36.85%.

Table 25. Emergency Management Knowledge and Preparedness

Emergency Management Knowledge and Preparedness				
	A	**F**	**G**	**I**
Emergency plans adopted	Yes	Yes	Yes	No
Plan tested for effectiveness	Yes	No	Yes	Yes
Knowledge of University shelter locations	Yes	Yes	Yes	Yes
Resources stored at shelter locations	Yes	Yes	No	No
Has the university prepared students	Yes	Yes/No	Yes	Yes
Students' knowledge and concerns assessed	No	No	No	Yes
Student involvement in emergency planning	No	No	No	Yes
Emergency warnings in foreign languages	No	No	No	No
Accommodations for visually impaired students	Yes	Yes	Yes	Yes
Accommodations for hearing impaired students	Yes	Yes	Yes	Yes
Knowledge of students required to live on campus	Yes	Did Not Know	Yes	Yes
SIS prepared to handle and increase in usage	Yes	No	Yes	Yes
Mutual-aid agreements in place with outside universities	Yes	No	Yes	Yes
Mutual-aid agreements include plans for emergency planning	Yes	Yes	Yes	No
Key personnel have plans for themselves and their families	Yes	Encouraged	Encouraged	Encouraged
Total out of 15	3	9	5	5
Percent	20.0	60.0	33.3	33.3

Note: Highlight indicates neglect of consideration.

Table 26. Student Affairs Knowledge and Preparedness

Student Affairs Knowledge and Preparedness						
	A	B	C	G	I	J
Personally received training	Yes	Yes	Yes	Yes	No	Yes
Student affairs employees informed of emergency operation procedures	Yes	Not all	Yes	Yes	Yes	Yes
All residence life employees required to complete training	Yes	Yes	Yes	Yes	Did Not Know	Yes
Student involvement in emergency planning	No	Yes	No	No	Yes	Yes
Student government involvement in emergency planning	No	Yes	Informed	No	Yes	Yes
Students invited to form an advisory committee for emergency planning	No	Yes	No	No	Yes	No
Students' knowledge and concerns assessed	No	No	No	No	No	No
Emergency warnings in foreign languages	No	Yes	No	No	No	No
Knowledge of students required to live on campus	Yes	Yes	Yes	Yes	Yes	Yes
Mutual-aid agreements in place with outside universities	Did Not Know	Yes	Did Not Know	Yes	Yes	No
Emergency housing plans in place	Yes	Yes	No	Yes	Did Not Know	No
Key personnel have plans for themselves and their families	Enc.	Yes	Yes	Enc.	Enc.	Enc.
Total out of 12	7	2	7	6	6	6
Percent	58.3	16.7	58.3	50.0	50.0	50.0

Note: Highlight indicates neglect of consideration. Enc. = Encouraged.

Table 27. Residence Life Knowledge and Preparedness

Residence Life Knowledge and Preparedness							
	A	B	C	E	F	G	I
Knowledge of university shelter locations	Yes/ No	Yes	Yes	Yes/ No	Yes	Yes	Yes/ No
Has the university prepared residents	No	Yes	Yes	Yes	Yes	Yes	Yes
Knowledge of students required to live on campus	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Awareness of residents with special needs	Yes	Yes	Yes	No	Yes	Yes	Yes
RLCs made aware of international students residing in halls	No	No	Yes	No	Yes	Yes	No
RAs made aware of international students residing in hall	No	No	Yes	No	No	Yes	No
Are residents accounted for during emergencies	Yes	No	Yes	Yes	Yes	Yes	No
Are residents represented in emergency planning	Did Not Know	Yes	No	No	Yes	No	Did Not Know
Are residents invited to form an advisory committee for emergency planning	Did Not Know	Yes	No	No	Yes	No	No
Residents knowledge and concerns assessed	No	Yes	No	No	Yes	No	No
Emergency housing plans in place	Did Not Know	Yes	No	No	Yes	Yes	Yes
Key personnel have plans for themselves and their families	Enc.	Enc.	Yes	Enc.	Enc.	Enc.	Enc.
Total out of 12	9	4	4	9	2	4	8
Percent	75.0	33.3	33.3	75.0	16.7	33.3	66.7

Note: Highlight indicates neglect of consideration. Enc. = Encouraged. RLC = Residence Life Coordinator. RA = Resident Assistant.

3.7.4.2 Preparedness by University Size. Data in Table 31 does not indicate a considerable difference in preparedness based on university size. Even when individual values are averaged together there is not a sizeable difference. Larger universities had a slightly higher percentage of shortfalls than small-to-medium universities.

3.7.4.3 Preparedness by University Hurricane Experience. Furthermore, Table 32 suggests that there is not a distinctive difference, among both individual university averages and group averages, in preparedness based on prior experience with hurricanes. Universities having experience with two or more hurricanes and those with no experience failed to consider roughly the same number of elements at 44.7% and 44.3% respectively. Meanwhile, universities with experience with one hurricane failed to consider a slightly higher percentage of elements at 50%.

Table 28. Average Preparedness by Office

Average Preparedness by Office	
	Percent
Emergency Management	36.7
Student Affairs	47.2
Residence Life	47.6

Note: Highlight indicates least prepared.

Table 29. Preparedness by University

Preparedness by University	
	Percent
A	48.7
B	25.0
C	45.8
E	75.0
F	40.7
G	38.5
I	48.7
J	50.0

Table 30. Preparedness by University Location

Preparedness by University Location			
	East	**Inland**	**West**
	75.0	25.0	48.7
	38.5	48.7	45.8
			40.7
			50.0
Percent Average	56.8	36.9	46.3

Note: Highlight indicates least prepared.

Table 31. Preparedness by University Size

Preparedness by University Size		
	Large	**Small-to-Medium**
	48.7	45.8
	25.0	40.7
	75.0	38.5
	48.7	50.0
Percent Average	49.4	43.4

Note: Highlight indicates least prepared.

Table 32. Preparedness by University Hurricane Experience

Preparedness by University Hurricane Experience			
	2+	**1**	**0**
	40.7	25.0	48.7
	48.7	75.0	45.8
		50.0	38.5
Percent Average	44.7	50.0	44.3

Note: Highlight indicates least prepared.

3.7.4.4 Preparedness by University Research Classification. The values displayed in Table 33 shows an obvious difference in preparedness based on research classification for the university classified as RU/H. However, only one university participated in one interview in this category (Table 22) so this might not be truly descriptive of the group.

Table 33. Preparedness by University Research Classification

Preparedness by University Research Classification				
	DRU	**RU/VH**	**RU/H**	**Other**
	40.7	48.7	75.0	45.8
		25.0		38.5
		48.7		50.0
Percent Average	40.7	40.8	75.0	44.8

Note: Highlight indicates least prepared.

3.7.4.5 Preparedness by University Community Engagement Classification. The data in Table 34 indicate that there was virtually no difference found in preparedness between universities that elected to participate in the community engagement classification and those that have not.

Table 34. Preparedness by University Community Engagement Classification

Preparedness by University Community Engagement Classification		
	Yes	**No**
	48.7	25.0
	38.5	45.8
	48.7	75.0
	50.0	40.7
Percent Average	46.5	46.6

Note: Highlight indicates least prepared.

3.7.4.6 Preparedness by University Storm-Ready Designation. Table 35 indicates a difference in preparedness between universities designated as 'Storm-Ready' and those that are not. Universities designated as 'Storm-Ready' had a neglected to consider higher percentage of elements, 53.3%, than universities that have not been designated as 'Storm-Ready', 39.8%.

Table 35. Preparedness by University Storm-Ready Designation

Preparedness by University Storm-Ready Designation		
	Yes	**No**
	48.7	25.0
	75.0	45.8
	40.7	38.5
	48.7	50.0
Percent Average	53.3	39.8

Note: Highlight indicates least prepared.

3.7.5 Summary of Preparedness. Emergency Management neglected to consider the fewest elements, followed by Student Affairs and Residence life respectively, though values for Students Affairs and Residence Life were nearly the same. Difference in preparedness based on location is not obvious until the averages of each group are taken into consideration. In this respect, inland universities were found to be the most prepared followed by western universities and then eastern universities. Universities classified as small-to-medium universities were found to be slightly more prepared than larger universities. Universities that have had experience with one hurricane were found to be the least prepared. Preparedness between universities that have no experience with hurricanes and those that have experience with two or more was nearly the same. Universities classified as RU/H universities were determined to be the least prepared, followed by universities classified as 'other', RU/VH and DRU. Differences between the latter three were not substantial. There was virtually no difference in preparedness between universities that elected to participate in the

Community Engagement Classification and those who have not. Strangely, universities that have not been designated 'Storm-Ready' were determined to be more prepared than universities that have achieved the 'Storm-Ready' designation. Overall, visible differences were only detected based on office, location, research classification and Storm-Ready designation.

3.8 Overview of Results

Eight universities participated in the study producing 17 interviews. Residence Life Offices had the highest response rate followed by Student Affairs and Emergency Management respectively. Only three universities had participants from all three Offices.

The interview results indicate that across all Offices the most common elements which a lack of knowledge or consideration existed on were areas concerning shelters, student/resident involvement, awareness of residents, assessment of students/residents, emergency-warning systems, mutual-aid agreements with universities, emergency housing, and personal plans of key personnel.

Evacuation is dependent on the situation and plans and procedures vary from university to university, but all would evacuate as soon as a threat is known. In regards to residents, only Residence Life professional staff members are required to stay and assist residents, student staff is not.

Students are provided with and have access to emergency information through multiple outlets and a multitude of emergency-warning systems are in place with some universities enforcing opt-out as oppose to opt-in systems.

Upon investigating university websites, it was found that universities that did not participate in the study tended to bury emergency information under more portals that those that did participate. Additionally, universities that had participation from Emergency Management Offices were more likely to have directs links to emergency information on the university's homepage. Furthermore, as office participation increased the number of steps required to access emergency information decreased.

The most evident differences in participation were found based on location, experience, and research classification. Western universities and those with no direct hurricane experience had higher university participation and interview response rates among their categories. Concerning research classification, those categorized as 'other' had the highest university participation rate and the highest interview response rates along side RU/VH universities.

By office, Emergency Management was found to be more knowledgeable and prepared than both Student Affairs and Residence Life Offices, who were roughly the same. By large, the only visible differences in preparedness were noticed based on office, location, research classification and 'Storm-Ready' designation.

Inland universities and those that have not been designated ‘Storm-Ready’ were found to be more prepared than other groups in the same category. RU/H universities were determined to be the least prepared, however, only one university participated in one interview in this group so this might not be truly representative.

CHAPTER FOUR:

DISCUSSION

Upon examining interview response rates it was interesting to note that Emergency Management Offices had the fewest participants. Since this topic is directly related to their roles, it would seem that these individuals would have had the most interest in the study. Conversely, this could also be why some chose not to participate, because of fear of a critical job performance. Additionally, it is worth noting that as office contact with students increased, so did office participation rates, that is, participation increased from Emergency Management to Student Affairs to Residence Life. This would suggest that office interest in student wellness actually influenced participation.

While all universities have shelter locations, not all shelters are located on campus grounds. It appears that certain universities aim to keep the number of individuals at shelter locations and on campus to a minimum, while some prefer to keep everyone on campus and invite outside community members on. While not having shelters located on campus may be beneficial to securing and managing the university during a hurricane event, it is important to mention since this could prove to be problematic in the event that a situation arises that does not allow sufficient preparation time. Furthermore, some universities chose not

to take on the responsibility of having shelters equipped to accommodate those with special needs, leaving this to be handled by county shelter locations. However, as indicated in the report from University E, the university only recently discovered that individuals must complete prior registration in order to utilize the offsite emergency facilities. This is somewhat alarming and certainly relevant enough for universities to investigate, if they have not done so already. Additionally, a number of Residence Life Office representatives were unaware of university shelter locations/plans for those with special needs; it is not unreasonable to expect Residence Life Staff to be aware of shelter locations.

For the most part, students and residents appear not to be in involved in university emergency planning nor are their hazard perceptions accessed. However, at some universities students and student government appear to play actives role attending meetings and formally holding seats on emergency management committees of sorts. However, in the event that efforts had not been made to access students, it is not known how well those who hold seats actually represent the concerns students may have and what their needs are. Furthermore, one university referred to students as recipients of the plans that have already been established, but how can the university really prepare for what the students will need if student are neither involved nor assessed?

Additionally, a number of universities expressed the opinion that since most students are from Florida, they should be aware of the reality of hurricanes.

While this may true, it does not mean students are prepared for hurricanes and could be a rather risky assumption to make. While the majority of students maybe from Florida, it does not mean they have had direct experience with hurricanes; conversely, many may actually have more experience with false alarms that could produce the opposite effect (Atwood & Major, 1998). Even if students have had ample experience, depending on storm severity, they could have become habituated to the threat and underestimate the risk (He, 2007). Moreover, for many residents this may be the first time they are living on their own and may not know what to do or what to expect due to a lack of life experience (Mulilis et al., 2000).

Nonetheless, research supports that planning should be based on knowledge if plans are to produce realistic solutions (Dynes et al., 1981). Exploration of community member's hazards knowledge and concerns leads to more effective planning (Burby, 2001). Assessment of students could aid the university in knowing where to focus preparation efforts. For universities that do not involve students, plans may turn out to be short sighted and inefficient as many have found in the past (IACLEA, 2006).

The university, which reported that the Student Information Systems (SIS) are not prepared to handle an increase in usage, should be addressed. Communication in times of crisis is a key component to emergency response. If an event were to occur, students would most likely be accessing university web

resources in numbers higher than usual. If SIS are not prepared to handle an increase in usage, a crucial form of communication could be lost and communication both during and after an emergency event could be disrupted. Also, this could affect the academic continuity at the university (Sokura & Cosby, 2007).

Emergency warning systems are not offered in different languages, with the exception of one university, for the reason that English competency is assumed as all students have to pass and English proficiency test. University B recognized that while this is the case, family members who may be living on campus with these students are not required to pass a test and may not understand English and has made plans to accommodate that group. In addition, while understanding English sufficiently to pass a test, students may still have difficulty understanding warning messages and their severity (He et al., 2007).

It is clear, that for the most part, all universities have adopted text-message warning systems that are widely promoted to the student body. While this method may be effective, one university made the acknowledgement that cellular companies in the area do not have a robust infrastructure system in place and the cellular networks can jam easily and have done so. While some universities may not have this issue, it is something to consider prior to heavily relying on text-message warning systems as a main point of communication.

All universities were aware that both international students and students with special needs live on campus and while the majority were knowledgeable of requirements for students to live on campus, there was one Emergency Management representative that was unsure if the university had any policy requiring students to live on campus. Requiring certain students to live on campus can change the characteristics of the residential community and associated vulnerabilities. It is not unreasonable to expect Emergency Managers to be aware of the resident population.

The existence of a formal mutual-aid agreement between the SUS is unclear, but there seems to be one in place, however, there is some confusion as to what exactly the plan entails. If there is a mutual-aid agreement between all Florida SUS schools, a point should be made to distribute the details of the plan among all those involved to avoid any confusion. Staff at each university should be fully aware of what mutual aid agreements are in place and what resources are available so they are not left to scrambling for aid, possibly hindering recovery time. Perhaps the universities should get together for a discussion forum on this topic. In any event, while unsure of mutual-aid agreements, universities seem to be willing to come to the aid of one another and assume that aid between universities is something that would just occur.

A number of universities communicated not having emergency housing plans in place and that this is something the university would address as it happened. In

the event that something was to occur, failure to have emergency housing plans in place could delay the recovery process of the university and inflict undue stress on residents that are without. It might be reasonable to assume that if Residence Halls were damaged, there would probably be damage to other university facilities as well, and the university would most-likely have to close. On the other hand, there are hazards such as fires or tornadoes, which may cause damage to select buildings only and not affect the entire campus. Most importantly, if emergency housing plans are in place, this could get residents back to school faster and the university up and running again in a shorter period of time.

Another point worth addressing is the subject matter of key personnel having emergency plans for themselves and their families. In many prior situations, it has been reported that, university personnel often experienced difficulty communicating, or were unable to communicate, with decision-makers in their command structure. As urged in the IACLEA report (2006), administrators should be prepared to fulfill their roles and responsibilities during emergency event and must be accessible throughout the duration of the event. The same report also encourages universities to, at the very least, make sure key personnel have their own plans prior to when an event occurs (IACELA, 2006). While ensuring that all key personnel have and are prepared to carry out their own emergency plans may prove to be difficult, universities can do more than just encourage these individuals to have plans. Only one university seemed to take

that extra step. University B reported that all personnel that work in the Emergency Operations Center have a plan. Each member has a cot, pillow, sleeping bag, and go-bag filled with all the essential hygiene products, a few days worth of clothes and any medication they might need. Each person is aware of what he/she needs and is ready to go. While the university makes sure that all key personnel follow this plan, it is unclear if it extends the same rigor in making sure that the families of these individuals are just as prepared. Perhaps if universities requested personnel to provide an overview of what their plans entail and how they would be executed, it would be a way to ensure that at some thought has been given to the matter, and it might make a considerable amount of difference.

While providing emergency information during orientations is an effective way to ensure that all are educated on the basics and where to find additional information, it may not be fully absorbed at the time. Whether it be new student or new employee orientation, a lot of information is covered during this period of time and can be overwhelming. It may be beneficial for universities to arrange additional information sessions to revisit emergency information. Education is an essential tool for preparedness; those that are educated are more likely to prepare themselves for potential disaster events (Sherman-Morris, 2010).

Only four universities in the entire system were found to have direct links to emergency information on university homepages. This is something that every

university should provide and it is something that is rather easy to complete, especially when considering that many universities refer students to the website to obtain additional emergency information. It is interesting that universities with participation from Emergency Management staff and from multiple offices tended to have more direct linkage to the access of emergency information than those who only had one participant or none at all. This could suggest that interest on the topic is a major contributing factor to the preparedness of universities.

Finding Emergency Management Offices to be, on average, more prepared than Student Affairs and Residence Life was not surprising in light if the fact that emergency management is their primary job focus. Although, the differences found in preparedness between offices might signify a break in communication. Western universities had both higher participation and response rates, followed by eastern and then inland universities, which might be expected when considering location and subjectivity to hurricane activity. However, inland universities were found to be more prepared. Differences based on hurricane experience did not seem to follow any pattern, as those with no experience had higher participation and response rates, followed by those with multiple hurricane experience and then those that had only been impacted by one hurricane.

A similar pattern holds true with regard to preparedness, in finding those with no experience to be more prepared than those that have had experience with multiple storms, followed by those who have experienced one hurricane.

Participation and response by research classification does not suggest much. Universities classified as ‘other’ had the highest participation rate followed by RU/VH universities; both had the highest interview response rates. DRU and RU/H universities had the same participation rate, but DRU universities had a higher interview response rate. Universities classified as RU/H universities were determined to be the least prepared, followed by universities classified as ‘other’, RU/VH and DRU. Differences between the latter three were not substantial and while RU/H universities were determined to be the least prepared, only one university participated in one interview in this group, so this might not be truly representative.

The finding that there was very little difference in participation and interview response rates, along with virtually no difference in preparedness between universities that elected to participate in the Community Engagement classification and those that have not, was unexpected. Given the nature of the elective and indications that universities can be of an immense asset to the larger community in which they are a part, during response and recovery efforts in the aftermath of a disaster (IACELA, 2006; FEMA, 2003), it was thought that those who have elected to participate would have, at minimum, had a higher participation and response rate.

Equally surprising, was the finding that universities that have not been designated ‘Storm-Ready’ were found to be more prepared than universities that

have been designated ‘Storm-Ready’. The ‘Storm-Ready’ program was designed in order to improve community preparedness against the effects of severe weather hazards. The program claims that communities designated as ‘Storm-Ready’ are ‘better prepared’ for severe weather hazards by means of advanced planning, education and awareness (Franklin, 2012). When considering the nature of the program and its ultimate goal to prepare communities, logically, those that have been designated ‘Storm-Ready’ should be more prepared than those that have not. However, this may suggest that the program’s guidelines have not taken into the consideration the unique dynamics of university communities in addition to concerns relevant to student wellness. If so, it would further support allegations that students are frequently overlooked in emergency planning. Or, it could also imply that once universities achieve the ‘Storm-Ready’ designation, they develop of false sense of security and become complacent with emergency planning. Storm-Ready program guidelines can be found in Appendix H.

The existence of an emergency operation plan does not necessarily indicate preparedness. Planning needs to account for and educate those being planned for. Additionally, if those responsible to carry out aspects of emergency plans are not knowledgeable of what these plans entail or their personal responsibilities, response plans will fall short. Based on the findings form this study, it is suggested that universities:

- Educate all key personnel on procedures and personal responsibilities.
- Make sure that all those who hold positions of leadership in the university are aware of university shelter locations. If shelters outside the university are being used coordinate with these shelters locations prior to an event.
- Engage students and residents in university emergency planning.
- Access students' and residents' hazard knowledge, perception and concerns.
- Be aware of the campus resident population and how the requirements of certain groups to live on campus can alter vulnerability.
- Do not assume that students are aware of and understand the realities of the hazards present in the area they live.
- Be more aware of complications involving language barrier issues, even if an English proficiency test is required.
- Have emergency housing plans in place prior to the occurrence of an event.
- Universities need to get on some the page with one another and discuss the existence and specifics of any mutual-aid agreements in place. Universities should communicate with one another, freely exchanging ideas and updates.
- Take extra steps to ensure that key personnel have emergency plans for themselves and their families.
- Make emergency information readily accessible for those looking for it.

- Do not become complacent with plans, as university communities are always in a state of flux.

CHAPTER 5:

CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

5.1 Conclusions

In many ways, institutions of higher education are considered communities within themselves and the student populations found in these communities are subject to multiple forces making them an exceptionally vulnerable sub-group of the population. Based on available research it appears that in the past, many universities have not been adequately prepared to meet the needs of, or assist, students during times of crisis. The majority of prior research has mainly focused on past disaster experiences, highlighting what went wrong, and what should be done for effective emergency planning. The primary intent of this research was to gain a better understanding of what is being done in university emergency planning and relate this to students. In addition, this research also sought to answer several research questions as follows:

The first research question was to look into the extent of which students have been involved in university emergency planning. From this study, it appears that, with the exception of a few universities, students and residents alike are largely not involved in university emergency planning. Only six out of the 17 representatives interviewed reported involving students and/or residents in

university emergency planning (Table 36) Citizen involvement in emergency planning as been advocated and has been proven to enhance emergency management (Burby, 2001). Bearing in mind that individuals do live in these university communities, universities should take this into consideration if they are to produce effective plans.

Table 36. Student/Resident Involvement in University Emergency Planning

	Student/Resident Involvement							
	A	**B**	**C**	**E**	**F**	**G**	**I**	**J**
EM	No	--	--	--	No	No	Yes	--
SA	No	Yes	No	--	--	No	Yes	Yes
RL	No – Did not know	Yes	No	No	Yes	No	No – Did not know	--

The second was to determine the most common elements universities have overlooked regarding student wellness and are as follows:

- Student/Resident Involvement
- Assessment of Students/Residents
- Emergency warnings in Foreign Languages
- Mutual-Aid Agreements with Outside Universities
- Emergency Housing Plans
- Personal Plans of Key Personnel

Most apparent was the neglect of universities to access students' and residents' hazards perceptions and ties in with the lack of student involvement in emergency planning. Fourteen out of the 17 representatives interviewed reported not assessing students and/or residents. As addressed in the previous chapter, planning should be based on knowledge if it is to produce realistic solutions (Dynes et al., 1981). Planners should be aware of whom they are planning for and what their concerns are, which if not taken into consideration can hamper recovery efforts (Pearce, 2003).

Universities seemed not to be concerned with language barriers as an issue, with only one reporting efforts to make emergency information and warnings available in different languages. The reasoning for this appears to be the assumption of English competency among all students. However, as pointed out by University B, family members who may be living on campus with these students are not required to pass a test and may not understand English. In addition, while understanding English sufficiently to pass a test, students may still have difficulty understanding warning messages and their severity (He et al., 2007). Universities should take the time to determine if these concerns apply to their community.

It was noticeable that there was some confusion surrounding the existence of a formal mutual-aid agreement in place among the entire State University System. If there is a mutual-aid agreement in place between the systems, all the

members should be made aware of this and what the plan entails if they are to prove useful. Additionally, universities expressed a lack of concern regarding emergency housing plans for residents in the event that this is needed. Having prior plans in place addressing these issues can only serve to benefit the university (IACLEA, 2006).

Lastly, many universities failed to play a more active role to ensure that all key personnel have personal plans for themselves and their families. As addressed in the IACLEA report (2006), many universities found that these individuals were not accessible throughout the duration of crisis events. Prior planning is not going to be effective if those who are responsible to respond and carry out plans are not prepared to do so.

The final question was to see if there were any apparent trends in participation and/or preparedness. The largest differences for participation and interview response rates were found based on location, hurricane experience, and research classification, though causes for such were not clear. Groups with higher participation rates had higher interview response rates and vise versa, with the exception of the community engagement classification.

The most apparent differences in preparedness were seen based on location, research classification and Storm-Ready designation, though causes for such were not clear. With the exception of location, groups that had higher

participation/interview response rates neglected to consider fewer elements and were found to be more prepared in regard to student wellness.

While a few trends do appear, differences are not too substantial and causes for such are not clear. The limited sample size restricts the conclusions that can be drawn and it is something that should be addressed in future research. The only thing that can be said for sure is that universities with participation from Emergency Managers and multiple Offices were found to be more likely to have direct links to emergency information located on university homepages.

The overall goal of this project was to gain greater insight into university emergency planning, identify areas that have been neglected in university emergency planning and raise awareness of the issue. This research provides a stronger understanding of the unique dynamics found in university communities and valuable information to better develop emergency plans with respect to student wellness. The results of this research will help fill gaps in emergency management and hazards research and serve as a starting point for more research into the topic.

5.2 Limitations and Future Research

Although this study provides useful results and considerations to be made in emergency planning, there are a number of limitations that need to be addressed. First, the nature of this study was exploratory and very broad in

scope; future research should narrow the scope of the study and focus on breaking it down into separate topics.

Another limitation is the limited sample size. While eight of the eleven universities participated, only 17 interviews were conducted and responses may not fully represent the Florida State University system as a whole. Additionally, the study only sought to interview one representative from each office at each location. While each person interviewed was a professional staff member, responses from each individual may not be representative of the office as a whole. A couple of universities completed multiple interviews in one session, meaning that emergency management, student affairs and/or residence life representatives completed the interviews together and were able to fill in areas that individuals may not have known if interviewed alone. There is also the issue of data being self-reported and potentially biased. While conducting the interviews it became apparent that there may have been differences in what some considered emergency planning and preparedness training to be, whether it was formal training, reviewing information or providing information. Future research could aim to interview numerous individuals from each office for more accurate results. Additionally, future research could focus attempts on one university, interviewing multiple people from each office, as a means to determine if there is break in communication regarding emergency operation plans and procedures.

It should be noted that the promise of confidentiality restricted the description and analysis of interviews. Further, different response rates from each office from different universities, coupled with dissimilar interview questionnaires for each office, proved to complicate analysis and made comparisons between universities as a whole difficult. Future research should allow for greater consistency in the questionnaires among the various offices.

Another area of possible research could examine students' hazard perceptions at a single university and examine university emergency operation plans as a way to determine if their concerns are addressed in university planning. Also, differences between perceptions and concerns could be examined between resident and non-resident students to identify differences. It would be interesting to compare plans between universities that do assess students' hazards perceptions and those that do not, or universities that do involve students in emergency planning and those that do not, to determine whether or not citizen involvement leads to more effective planning within university communities.

One more area that might be worth addressing is the guidelines for universities to be designated as 'Storm-Ready'. When considering the nature of the program, it was surprising that the results from this study indicated that those designated as 'Storm-Ready' were found to be less prepared than those who were not. Research could examine whether or not programs such as this take into

consideration the distinctive characteristics and vulnerabilities of different communities.

Even though the present study has a number of limitations, it does provide useful information to be addressed by university communities and provides valuable suggestions for improving university emergency planning. Furthermore, it sheds a little more light on the topic and identifies areas to be addressed by future research.

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APPENDIX A:

Hurricanes That Have Made Landfall Near University Locations

Table 37. Hurricanes That Made Landfall Near Jacksonville, FL

University of North Florida, Jacksonville	
Hurricane/Year	**Category**
Charley - 2004	1
David - 1979	2
Gladys - 1968	1
Dora - 1964	2/3
Donna - 1960	2/3
King - 1950	1
1945	1
1928	1/2
1898	4
1896	3
1894	1
1893	3
1893	3
1888	2
1885	1/2
1880	1
1878	1
1854	3
1853	2
Total	**19**

Note: Highlight denotes direct hit.

Table 38. Hurricanes That Made Landfall Near Boca Raton, FL

Florida Atlantic University, Boca Raton	
Hurricane/Year	**Category**
Katrina - 2005	1
Wilma - 2005	2
Jeanne - 2004	3
Frances - 2004	2
Irene - 1999	1
Andrew - 1992	4
David - 1979	1/2
Cleo - 1964	3
Isbell - 1964	3
King - 1950	2
1949	4
1948	2
1948	2
1947	1
1947	5
1945	4
1941	3
1939	1
1935	1
1933	4
1928	2
1928	4
1928	4
1926	4
1926	2
1926	2
1924	1
1909	2
1906	1
1906	2/3
1903	1
1891	1
1888	3
1885	1
1887	1
1876	2
1871	2
1871	3
1870	3
1865	1/2
Total	**40**

Note: Highlight denotes direct hit.

Table 39. Hurricanes That Made Landfall Near Miami, FL

Florida International University, Miami	
Hurricane/Year	**Category**
Wilma - 2005	2
Katrina - 2005	1/TS
Irene - 1999	1
Andrew - 1992	4
Floyd - 1987	1
David - 1979	1/2
Inez - 1966	1
Betsy - 1965	3
Isbell - 1964	3
Cleo - 1964	2
King - 1950	2
1949	4
1948	2/3
1948	2/3
1947	4/5
1947	1
1945	4
1941	3
1935	3
1935	1
1933	3/4
1929	2
1928	2
1928	4
1926	4
1926	2
1924	1
1909	3
1906	3
1906	1
1904	1
1903	1
1891	1
1888	3
1885	1/TS
1878	1
1870	2
1865	2
Total	**38**

Note: Highlight denotes direct hit.

Table 40. Hurricanes That Have Made Landfall Near Orlando, FL

University of Central Florida, Orlando	
Hurricane/Year	**Category**
Charley - 2004	1/4
Jeanne - 2004	1/2
Frances - 2004	1
Erin - 1995	1
David - 1979	2
Gladys - 1968	1
Donna - 1960	3
Easy - 1950	TS/1/2
King - 1950	1
1949	1/3
1945	1/2/3
1945	1
1944	1
1933	TS/3
1928	TS/1
1928	2/3/4
1926	TS/1
1921	1/3
1915	1
1910	TS/1
1894	TS/1
1885	TS/1
1880	TS/1/2
1878	1
1871	1/2
1871	1
Total	**26**

Note: Highlight denotes direct hit.

Table 41. Hurricanes That Have Made Landfall Near Gainesville, FL

University of Florida, Gainesville	
Hurricane/Year	**Category**
Gladys - 1968	1
Dora - 1964	2
Easy - 1950	TS/3
King - 1950	1
1949	TS/1
1945	TS/1
1945	1
1944	TS/1
1928	1/2
1896	3
1888	2
1886	TS/1
1882	TS/1
1880	1
1878	TS/1
1874	TS/1
1871	TS/1
1871	TS/1
Total	**18**

Note: Highlight denotes direct hit.

42. Hurricanes That Have Made Landfall near Tallahassee, FL

Florida Agricultural and Mechanical University & Florida State University, Tallahassee

Hurricane/Year	Category
Earl - 1998	1
Katie - 1985	1/2
Anges - 1972	TS/1
Alma - 1966	TS/1
Dora - 1964	TS/1
1941	TS/1
1899	TS/2
1894	2/3
1886	1/2
1886	1/2
1880	1
1877	1/2
1873	1
1856	1/2
1852	1/2
1851	2/3
Total	**16**

Note: Highlight denotes direct hit.

Table 43. Hurricanes That Have Made Landfall Near Ft. Myers, FL

Florida Gulf Coast University, Ft. Myers	
Hurricane/Year	**Category**
Wilma - 2005	3
Charley - 2004	2/4
Andrew - 1992	4
Isbell - 1964	3
Dona - 1960	4
1947	2/4
1946	4
1945	3/4
1944	1/3
1941	2/3
1935	4/3
1929	2
1926	3/4
1925	1
1924	1
1910	2/3
1903	TS/1
1894	2/1
1888	1/2
1876	2
1873	3
1870	1
Total	**22**

Note: Highlight denotes direct hit.

Table 44. Hurricanes That Have Made Landfall Near Pensacola, FL

University of West Florida, Pensacola	
Hurricane/Year	**Category**
Dennis - 2005	3/4
Ivan - 2004	3
Danny - 1997	TS/1
Erin - 1995	1
Opal - 1995	3
Elena - 1985	3
Fredrick - 1979	4
Eloise - 1975	3
Flossy - 1956	1
Florence - 1953	1
Baker - 1950	1
1936	1
1932	1
1926	4
1917	3
1916	2
1916	3
1911	1
1896	2
1887	1
1882	2/3
1877	1
1860	3/1
1859	1
Total	**24**

Note: Highlight denotes direct hit.

Table 45. Hurricanes That Have Made Landfall Near Sarasota, FL

New College Florida, Sarasota	
Hurricane/Year	**Category**
Jeanne - 2004	1
Charley - 2004	4
Alma – 1966	2/3
Donna - 1960	3/4
Easy - 1950	2/3
1949	3
1947	2
1946	1/4
1945	3
1944	1/3
1941	2/3
1935	2/3
1929	2
1926	3
1925	1
1921	3
1910	1/2
1894	1/2
1888	1
1886	1
1873	3
1852	1
Total	**22**

Note: Highlight denotes direct hit.

46. Hurricanes That Have Made Landfall Near Tampa, FL

University of South Florida, Tampa

Hurricane/Year	Category
Jeanne - 2004	TS/1
Charley – 2004	1/4
Erin - 1995	TS/1
Gladys - 1968	1
Donna - 1960	3
Easy - 1950	1/2/3
1949	3
1946	1
1945	1
1945	2/3
1944	1
1941	2
1935	2
1933	TS/3
1928	3
1925	1
1921	3
1910	TS/1/2
1894	1/2
1886	1
1880	1
1878	TS/1/2
1871	1
1871	1
1852	TS/1
Total	**25**

Note: Highlight denotes direct hit.

APPENDIX B:

Emergency Management Interview Questionnaire

Disaster Vulnerability of University Student Populations Fall 2011

As your identity will be kept completely confidential, please do not research your answers – this is not a test. Researching answers will compromise the validity of the research.

Qualification:
Are you a representative within the Emergency Management or Public Safety Office?
Yes __ No __

Did you review the informed consent form provided for this study?
Yes __ No __

It is ok to record this interview to aid in analysis and reference purposes?
Yes__ No__

---

1. To your knowledge when does hurricane season begin? _____
   When does it end? _____

2. Are you concerned a hurricane will come to your area this hurricane season?

   Yes __ No __

3. Do you feel your university was well prepared for this hurricane season?

   Yes __ No __

4. What kind of hurricane damage is your university most at risk for?

   Wind__ Water/Flooding __ Both __ Don't know __

5. Are you familiar with your university's emergency operation plans?

   Yes__ No__

6. Are you familiar with your university's evacuation procedures?

   Yes__ No__

   If so, please explain. _____

7. Under what conditions would your university evacuate for a hurricane? _____

   When? (e.g. 24 hours before, 36 hours before, etc) _____

8. Has your university ever been directly impacted by a hurricane?

   Yes__ No__ Do not know__

   If so, how many times and when was the last time? _____

   Has your university ever been indirectly impacted by a hurricane?

   Yes __ No__ Do not know__

   If so, how many times and when was the last time? _____

9. Have you personally received emergency preparedness/response training from your university?

   Yes__ No__

   If so, how long ago? _____

   If not, will you be receiving such training?

   Yes__ No__ Do not know__

10. Have you personally received hurricane specific preparedness training from your university?

    Yes__ No__

    If so, how long ago? _____

    If not, will you be receiving such training?

    Yes__ No__ Do not know__

11. Does the entire university staff (including faculty) receive any emergency preparedness training from your university?

    Yes__ No__ Do not know__

    If so, how often? _____

    If not, who does receive training and how often? _____

12. Are there regularly scheduled meetings to discuss key topics in emergency preparedness?

    Yes__ No__

    If so, how often? _____

13. Are emergency operation plans reviewed, revised and updated annually?

    Yes__ No__ Do not know__

14. Has your university adopted and implemented university emergency operation plans and procedures?

    Yes__ No__

15. Are emergency operation plans tested for effectiveness?

    Yes__ No__

    If so, how often? _____

16. What are the recovery priorities of your university? _____

17. Are campus buildings up to code to resist and minimize losses from flooding and wind damage?

    Yes__ No__ Do not know___

    Can you provide any specifics about this? _____

18. How long is the campus prepared to be self-sustainable?_____

19. Are resources stored at designated university shelter locations?

    Yes__ No__

20. Do you know where the official university shelter location for students is?

    Yes__ No___

    If so, where? _____

21. Do you know where the official university shelter location is for special needs individuals?

    Yes__ No__

    If so, where? _____

22. How were university shelter locations determined? _____

23. Do you feel your university adequately prepared students for this hurricane season?

    Yes__ No__

24. Are students Identified as stakeholders in the hazard mitigation planning process?

    Yes__ No__ Do not know__

25. Are students involved in emergency planning from the very beginning stages of the hazard mitigation process?

    Yes__ No__ Do not know__

26. Are parents involved in university emergency planning?

    Yes__ No__ Do not know__

27. How are students represented in the emergency planning process? ____

28. Are students briefed/provided with information on university emergency operations procedures?

    Yes__ No__ Do not know__

29. Have efforts been made to assess students' hazard knowledge, concerns, perceptions and personal preparedness?

    Yes__ No__ Do not know__

    If so, what has been done? _____

30. Has anything been done to consider the particular needs of international, out of state, special needs students and on campus residents?

    Yes__ No___

    If so, what? _____

31. What emergency warning systems are in place? _____

32. Is information on university emergency preparedness and response procedures available through multiple outlets?

    Yes__ No__ Do not know__

33. Are emergency warning systems offered in different languages?

    Yes__ No__ Do not know__

34. Are there any accommodations for hearing and/or visually impaired students?

    Yes__ No__ Do not know__

    If so, what? _____

35. Are students provided with up-to-date emergency response/ preparedness information?

    Yes__ No __ Do not know__

    If so, how? _____

36. Are students provided with information on hurricane specific preparations?

Yes__ No__ Do not know__

If so, how? _____

37. Are students provided information on university evacuations plans and procedures?

Yes__ No__ Do not know__

38. Are students briefed about and provided with emergency response and preparedness information during university orientation?

Yes__ No__ Do not know__

39. What does Residence Life do to prepare campus residents? _____

40. Has your university trained and prepared administration, student affairs and residence life staff to assist students during and after emergency events?

Yes__ No__ Do not know__

41. Are student body demographics taken into consideration during emergency planning?

Yes__ No__ Do not know __

42. Has the student body composition changed within the past few years? (e.g. an increase in out of state/international students, etc.)

Yes__ No__ Do not know __

If so, has this been taken into consideration during emergency planning?

Yes__ No__ Do not know__

43. Have the requirements to live on campus changed within the past few years? (e.g. Are certain students now required to live on campus who previously were not?)

Yes__ No__ Do not know__

If so, has this been taken into considerations during emergency planning?

Yes__ No__ Do not know__

44. Are campus residents allowed to have cars?

Yes__ No__ Do not know__

If so, are all campus residents allowed to have cars?

Yes__ No__ Do not know___

If not, when are campus residents permitted to have cars? _____

Has this been taken into consideration during emergency planning?

Yes__ No__ Do not know__

45. Are all key information systems backed-up regularly and stored at an off-site location?

Yes__ No__ Do not know__

Does this include student records?

Yes__ No__ Do not know__

46. Are mutual- aid agreements in place with outside entities? (Such as, local businesses, hotels/motels, grocery stores, etc.)

Yes__ No__ Do not know__

47. Are mutual-aid agreements in place with outside universities?

Yes__ No__ Do not know__

Do these agreements include plans for emergency housing? _____

48. Is there a plan in place for the academic continuity of the university post-disaster?

Yes__ No__ Do not know__

49. Are Student Information Systems (SIS), such as blackboard or other university web-resources, prepared to handle an increase in usage in the event of partial of full university closure?

Yes__ No__ Do not know__

50. Is the restoration of SIS on high priority in the event of an outage?

Yes__ No__ Do not know__

51. Is the distribution of financial aid to students after an emergency event on high priority?

Yes__ No__ Do not know__

52. Is contact information of all key personnel updated annually?

Yes__ No__ Do not know__

53. Is contact information of all key personnel stored at multiple locations or outlets?

Yes__ No__ Do not know__

54. Do all key personnel have their own emergency plans for themselves and their family?

Yes__ No__ Do not know__

55. Are there any additional comments you would like to make? _____

Thank you for your time.

APPENDIX C:

Emergency Management Interview Generalizations

Table 47. Emergency Management Interview Generalizations

	UNF	FSU	UWF	USF
Familiar with emergency operation plans & procedures	Y	Y	Y	Y
Familiar with evacuation plans	Y	Y	Y	Y
Received personal training	Y	Y	Y	Y
Entire Univ. staff receive training	Y	N	Not all	Not all
Core members receive training	Y	Y	Y	Y
Scheduled meetings to discuss topics	Y	Y	Y	Y
Plans revised/updated annually	Y	Y	Y	Y
Plans Adopted	Y	N	Y	Y
Plans Tested	Y	Y	N	Y
Shelters on campus	Y/N	Y	Y/N	Y
Know shelter locations	Y	Y	Y	Y
Resources stored at shelter locations	N	N	Y	Y
Students Identified as stake holders	Y	Y	Y	Y
Univ. prepare students	Y	Y	Y/N	Y
Students provided with emergency information	Y	Y	Y	Y
Students provided with information on evacuation procedures	Y	Y	Y	Y
Students provided with emergency information during orientation	Y	Y	Y	Y
Asses students	Y/N	Y	N	N
Students Involvement	N	Y	N	N

Table 47. Continued

	UNF	FSU	UWF	USF
Parent Involvement	N	N	N	N
Consideration of student body composition	Y	Y	Y	Y
Consideration of international student needs	Y	Y	Y	Y
Considerations of out-of-state student needs	Y	Y	Y	Y
Consideration of special needs students needs	Y	Y	Y	Y
Consideration of campus resident needs	Y	Y	Y	Y
Information available through multiple outlets	Y	Y	Y	Y
Emergency warnings in foreign languages	N	N	N	N
Accommodations for visually impaired	Y	Y	Y/N	Y
Accommodations for hearing impaired	Y	Y	Y/N	Y
Administration, student affairs & residence life staff trained to assist students	Y	Y	Y	Y
Students required to live on campus	N Y in 2012	N	Did not know	Y
Residents permitted to have cars on campus	Y	Y	Y	Y
Key information systems backed up regularly and stored at off site locations	Y	Y	Y	Y
SIS prepared to handle an increase in usage	Y	Y	N	Y
Mutual-aid agreements with outside entities	Y	Y	Y	Y
Mutual-aid agreements with outside universities	Y	Y	N	Y
Mutual-aid agreements include plans for emergency housing	Y	N	Y	Y
Plan to distribute financial aid funds	Y	N	Y	Y

Table 47. Continued

	UNF	FSU	UWF	USF
Key personnel contact information updated annually	Y	Y	Y	Y
Key personnel have plans for themselves and their families	Encouraged	Encouraged	Encouraged	Y

Note: Highlight indicates concern. Y = Yes. N = No.

APPENDIX D:

Student Affairs Interview Questionnaire

Disaster Vulnerability of University Student Populations Fall 2011

As your identity will be kept completely confidential, please do not research your answers – this is not a test. Researching answers will compromise the validity of the research.

Qualification:
Are you a representative within the Student Affairs Office?
Yes__ No__

Did you review the informed consent form provided for this study?
Yes__ No__

It is ok to record this interview to aid in analysis and reference purposes?
Yes__ No__

---

1. To your knowledge when does hurricane season begin? _____
   When does it end? _____

2. Are you concerned a hurricane will come to your area this hurricane season?

   Yes__ No__

3. Do you feel your university is well prepared for this hurricane season?

   Yes__ No__

4. Have you personally received emergency preparedness and response training from your university?

   Yes__ No__

   If so, how long ago? _____

   If not, will you be receiving such training?

   Yes__ No__ Do not know__

5. Have you personally received hurricane specific preparedness training from your university?

   Yes__ No__

   If so, how long ago? _____

   If not, will you be receiving such training?

   Yes__ No__ Do not know__

6. Are you familiar with you university's emergency operation plans?

   Yes__ No__

7. Are you familiar with your university's evacuation procedures?

   Yes__ No__

   If so, please explain. _____

8. Under what conditions would your university evacuate for a hurricane? _____

   When? (e.g. 24 hours before, 36 hours before, etc.) _____

9. Do you know where the official university shelter location for students is?

   Yes__ No__

   If so, where? _____

10. Do you know where the official university shelter location is for special needs individuals?

    Yes__ No__

    If so, where?_____

11. Are students briefed/provided with information on university emergency operations procedures?

    Yes__ No__ Do not know__

12. Are students Identified as stakeholders in the hazard mitigation planning process?

    Yes__ No__ Do not know__

13. Are students involved in emergency planning from the very beginning stages of the hazard mitigation process?

    Yes__ No__ Do not know__

14. Are parents involved in university emergency planning?

    Yes__ No__ Do not know__

15. How are students represented in the emergency planning process? _____

16. Have efforts been made to assess students' hazard knowledge, concerns, perceptions and preparedness?

    Yes__ No __ Do not know__

    If so, what has been done? _____

17. Has anything been done to consider the particular needs of international, out of state, special needs students and on campus residents in the event of an emergency?

    Yes__ No__

    If so, what? _____

18. Are students invited to form an advisory committee for emergency planning?

    Yes__ No__ Do not know__

    If so, does this committee take into consideration the needs of all students?

    Yes__ No__ Do not know__

    If so, explain. _____

19. Is the student government involved in the emergency planning process?

    Yes__ No__ Do not know__

20. Are students provided with up-to-date emergency response/ preparedness information?

    Yes__ No__ Do not know__

    If so, how? _____

21. Are students provided with information on hurricane specific preparations?

    Yes__ No__ Do not know__

22. Do you feel your university adequately prepared students for this hurricane season?

    Yes__ No__

23. Is emergency preparedness and response information available through multiple outlets?

    Yes__ No__ Don't know__

24. What emergency warning systems are in place? _____

25. Are emergency warning systems offered in different languages?

    Yes__ No__ Do not know__

26. Are there any accommodations for hearing and/or visually impaired students?

    Yes__ No__ Do not know__

27. Is Student Affairs required to inform students of emergency situations?

    Yes__ No__ Do not know__

    If not, who is? _____

28. What does Student Affairs do to educate and prepare students on emergency preparedness and response? _____

29. Does Student Affairs provide students with information on emergency preparedness and response procedures during orientation?

    Yes__ No__ Do not know__

30. Are all Student Affairs employees informed on university emergency operation procedures?

    Yes__ No__ Do not know__

31. Are all Student Affairs employees required to complete any emergency response and preparedness training?

    Yes__ No__ Do not know__

    If not, who is? _____

32. Are all Student Affairs employees required to complete any hurricane specific preparedness training?

    Yes__ No__ Do not know__

    If not, who is?_____

33. Has your university trained and prepared all Student Affairs employees to assist students during and after an emergency event?

    Yes__ No__ Do not know___

    If not, who has been? _____

34. Are all Residence Life employees required to complete emergency response and preparedness training?

Yes__ No__ Do not know__

If not, who is? _____

35. Are all Residence Life employees required to complete hurricane specific preparedness training?

Yes___ No___ Do not know__

If not, who is? _____

36. Is Residence Life required to inform residents of emergency situations?

Yes__ No__ Do not know__

If not, who is? _____

37. Is Residence Life responsible to prepare residents for emergency situations?

Yes__ No__ Do not know__

If not, who is? _____

38. Is Residence Life responsible to assist residents during emergency situations?

Yes__ No__ Do not know__

If not, who is? _____

39. Are you aware of the demographics of the student body?

Yes__ No__ Do not know__

If so, please explain? _____

40. Has the student body composition changed within the past few years? (e.g. and increase/decrease in out-of-state, in-state, international students etc.)

Yes__ No __ Do not know__

If so, how? _____

41. Is the student body composition taking into consideration during emergency planning?

    Yes__ No__ Do not know__

    If so, how? _____

42. Has there been and increase in the international student population recently?

    Yes__ No__ Do not know__

43. Do you know what portion of the student body is comprised of international students?

    Yes__ No__ Do not know__

    If so, what is it? _____

44. Do any international students live on campus?

    Yes__ No__ Do not know__

45. Has there been an increase in the out-of-state student populations?

    Yes__ No__ Do not know__

46. Do out-of-state students represent a large portion of the student body?

    Yes__ No __ Do not know__

    If so, what is it? _____

47. Are any students required to live on campus? (e.g. first time in college students)

    Yes__ No__ Do not know__

    If so, who is? _____

48. Are campus residents permitted to have cars on campus?

Yes__ No__ Do not know__

If so, are all campus residents allowed to have cars?

Yes__ No__ Do not know__

If not, when are campus residents permitted to have cars on campus? _____

Has this been taken into consideration during emergency planning?

Yes__ No__ Do not know __

49. Are students provided with current contact information of personnel they can reach out to for help in emergency situations?

Yes__ No__ Do not know__

If so, how are they provided with this information?_____

50. Is meeting student needs post-disaster a priority of the university's recovery plans?

Yes__ No__ Do not know__

51. Are all key information systems backed up regularly and stored at off-site locations?

Yes__ No__ Do not know__

Does this include student records?

Yes__ No__ Do not know__

52. Are student information systems (SIS) such as, black board and other university web resources, prepared to handle and increase in usage in the event of partial of full university closure?

Yes__ No__ Do not know__

53. Is the restoration of SIS a priority in the event of an outage?

Yes__ No__ Do not know__

54. Is there a plan to distribute financial aid funds to students after an emergency event?

Yes__ No__ Do not know__

If so, what is it?_____

55. Is the distribution of financial funds after an emergency event on high priority?

Yes__ No___ Do not know__

56. How is faculty instructed to communicate with students during emergency events? _____

57. Is the faculty required to provide students with contact information in order to communicate during and after emergency events?

Yes__ No__ Do not know__

58. Is the faculty instructed to have a flexible alternate curriculum plan post-disaster when students return?

Yes__ No__ Do not know__

59. Is there a plan in place for the academic continuity of the university post-disaster?

Yes__ No__ Do not know__

If so, what is it?

60. Are mutual aid agreements in place with outside universities?

Yes__ No__ Do not know__

61. Is there a housing plan in place in the event that residents cannot return to campus housing?

Yes__ No__ Do not know__

If so, what is it? __

62. Is there a plan in place to retain students at the university post-disaster?

Yes__ No__ Do not know__

If so, what is it? _____

63. Are students made aware of the resources available to them both before and after an emergency event?

Yes__ No__ Do not know___

If so, how are they provided with this information? _____

64. Is contact information off all key personnel updated regularly?

Yes__ No__ Do not know__

If so, how often? _____

65. Is contact information of all key personnel stored at multiple locations or outlets?

Yes__ No__ Do not know__

66. Do all key personnel have their own emergency plans for themselves and their family?

Yes__ No__ Do not know__

67. Are there any additional comments you would like to make? _____

Thank you for your time.

APPENDIX E:

Student Affairs Interview Generalizations

Table 48. Student Affairs Interview Generalizations

	UNF	UF	FSU	FGCU	NCF	USF
Familiar with emergency operation plans & procedures	Y	Y	Y	Y	Y	Y
Familiar with evacuation plans	Y	Y	Y	Y	Y	Y
Received personal training	Y	Y	N	Y	Y	Y
Know shelter locations	Y	Y	Y	Y	Y	Y
Univ. prepares students	Y	Y	Y	Y	Y	Y
Student provided with emergency information	Y	Y	Y	Y	Y	Y
Students identified as stake holders	Y	Y	Y	Y	Y	Y
Student involvement	N	Y	Y	Y	N	N
Parent involvement	N	N	N	N	N	N
Assess students	Y/N	N	N	N	N	N
Student government involved	Y/N	Y	Y	Y	Y/N	N
Students invited to form advisory committee	N	Y	Y	N	N	N
Information available through multiple outlets	Y	Y	Y	Y	Y	Y
Emergency warnings in foreign languages	N	Y	N	N	N	N
Accommodations for hearing impaired	Y	Y	Y	Y	Y	Y
Accommodations for visually impaired	Y	Y	Y	Y	Y	Y
Student Affairs employees informed of univ. emergency operation procedures	Y	Not all	Y	Y	Y	Y

Table 48. Continued

	UNF	UF	FSU	FGCU	NCF	USF
Student Affairs trained and prepared to assist students	Y	Y	Y	Y	Y	Y
All Residence Life employees required to complete training	Y	Y	Not all	Y	Y	Y
Residence Life responsible to prepare residents	Y	Y	Y	Y	Y	Y
Residence Life responsible to assist Residents	Y	Y	Y	Y	Y	Y
Student body composition taken into consideration	Y	Y	Y	Y	Y	Y
Students required to live on campus	N	N	N	N	Y	Y
Residents permitted to have cars	Y	Y	Y	Y	Y	Y
Students provided with contact information of personnel to reach out to	Y	Y	Y	Y	Y	Y
Key information systems backed up regularly and stored at off site locations	Y	Y	Y	Y	Y	Y
SIS prepared to handle increase in usage	Y	Y	Y	Y	Did not know	Did not know
Plan to distribute financial aid funds	Y	Y	Did not know	Y	N	N
Mutual-aid agreements with outside universities	Y	Y/N	Y	N	Did not know	Did not know
Emergency housing plan in place	Y	Y	Did not know	N	N	Y/N
Student made aware of available resources	Y	Y	Y	Y	Y	Y
Key personnel contact information updated regularly	Y	Y	Y	Y	Y	Y
Key personal have plans for themselves and their families	Enc.	Y	Enc.	Enc.	Y	Enc.

Note: Highlight indicates concern. Enc. = Encouraged. Y = Yes. N = No.

APPENDIX F:

Residence Life Interview Questionnaire

Disaster Vulnerability of University Student Populations Fall 2011

As your identity will be kept completely confidential, please do not research you answers – this is not a test. Researching answers will comprise the validity of the research.

Qualification:
Are you a representative within the Residence Life Office?
Yes__ No__

Did you review the informed consent form provided for this study?
Yes__ No__

It is ok to record this interview to aid in analysis and reference purposes?
Yes__ No__

---

1. To your knowledge when does hurricane season begin? _____
   When does it end? _____

2. Are you concerned a hurricane will come to your area this hurricane season?

   Yes__ No__

3. Do you feel your university is well prepared for this hurricane season?

   Yes__ No__

4. Have you personally received emergency preparedness/response training?

   Yes__ No__

   If so, how long ago? _____

   If not, will you be receiving such training?

   Yes__ No__ Do not know__

5. Have you personally received hurricane specific preparedness training?

   Yes__ No__

   If so, how long ago? _____

   If not, will you be receiving such training?

   Yes__ No__ Do not know__

6. Are you familiar with your university's emergency operation plans?

   Yes__ No__

7. Are you familiar with your university's evacuation procedures?

   Yes__ No__

   If so, please explain_____

8. Under what conditions would your university evacuate for a hurricane? _____

   When? (e.g. 24 hours before, 36 hours before, etc) _____

9. Do you know where the official university shelter location for students is?

   Yes__ No__

   If so, where? _____

10. Do you know where the official university shelter location is for special needs individuals?

    Yes__ No__

    If so, where? _____

11. Do you feel your university adequately prepared campus residents for this hurricane season?

    Yes__ No__

12. Are you aware of the demographics of the university's resident population? (e.g. number out-of-state, in-state, international, special needs students, etc. residing in campus housing)

    Yes__ No__

13. Do any international students live on campus?

    Yes__ No__ Do not know__

    If so, where? _____

14. Do any special needs students live on campus?

    Yes___ No ___ Do not know__

    If so, where? _____

15. Are the particular needs of these students taken into consideration during emergency planning?

    Yes__ No__ Do not know__

    If so, how? _____

16. Are Residence Life Coordinators made aware of international students residing in their residence hall(s)?

    Yes__ No__ Do not know__

    If so, how? _____

17. Are Residence Assistants made aware of international students residing in their residence hall?

    Yes__ No__ Do not know__

    If so, how? _____

18. Are campus residents represented in the emergency planning process?

    Yes__ No__ Do not know__

    If so, how? _____

19. Have efforts been made to assess residents' hazard knowledge, concerns, perceptions and preparedness?

    Yes__ No__ Do not know__
    If so, what has been done? _____

20. Are campus residents invited to form an advisory committee for emergency planning?

    Yes__ No__ Do not know__

    If so, does this committee take into consideration the needs of all students residing on campus? (e.g. in-state, out-of-state, international, special needs, first time in college, etc.)

    Yes__ No__ Do not know__

    If so, explain. _____

21. Are all Residence Life employees required to complete any emergency preparedness/response training?

    Yes__ No__ Do not know__

    If not, who is? _____

    For those who receive training, how often is this done? _____

22. Are all Residence Life employees required to complete hurricane specific preparedness training?

    Yes__ No__ Do not know__

    If not, who is? _____

    For those who receive training, how often is this done? _____

23. Are all Residence Life employees educated on university emergency operations procedures?

    Yes__ No__ Do not know__

    If not, who is? _____

24. Is Residence Life required to inform students of emergency situations?

    Yes__ No__ Do not know__

    If so, how is this done? _____

25. Are residents briefed/provided with information on university emergency operation procedures?

    Yes__ No__ Do not know__

26. Are residents provided with emergency response and preparedness information?

    Yes__ No__ Do not know__

    If so, how? ____

27. Are residents provided with hurricane preparedness information?

    Yes__ No __ Do not know__

28. Are residents educated on university evacuations procedures?

    Yes__ No__ Do not know__

    If so, how? _____

29. At your university, what does Residence Life do to prepare residents for emergency events? _____

30. Are residents provided with current contact information of individuals they can turn to for guidance in the event of a campus emergency?

    Yes__ No__ Do not know__

31. How will residents be communicated with during an emergency event? _____

32. What are the duties of the residence life staff during an emergency event? _____

33. Are all Residence Life employees required to stay and assist residents during an emergency event?

    Yes__ No__ Do not know__

    If not, who is? _____

34. Are all Residence Life employees required to stay on campus until all residents have evacuated?

    Yes___ No___ Do not know___

    If not, who is? _____

35. Is anything done to account for campus residents in the event of a campus evacuation?

    Yes__ No__ Do not know__

    If so, how will campus residents be accounted for? _____

36. Is there a housing plan in place in the event that campus housing is lost?

    Yes__ No__ Do not know__

    If so, what is it? _____

37. Are any students required to live on campus? (e.g. first time in college students, out of state students, etc)

Yes__ No__ Do not know__

If so, who is? _____

Has this been taken into consideration during emergency planning? _____

38. Are residents permitted to have cars on campus?

Yes__ No__ Do not know__

If so, are all campus residents allowed to have cars?

Yes__ No__ Do not know__

If not, when are campus residents permitted to have cars on campus?
Has this been taken into consideration during emergency planning?

Yes__ No__ Do not know__

39. Within the past few years, have there been changes to who is required/allowed to reside on campus?

Yes__ No__ Do not know__

If so, explain? _____

Has this been taken into consideration during emergency planning?

Yes__ No__ Do not know__

40. Is contact information off all key personnel updated annually?

Yes__ No__ Do not know__

If so, how often? _____

41. Is contact information of all key personnel stored at multiple locations or outlets?

Yes__ No__ Do not know __

42. Do all key personnel have their own emergency plans for themselves and their family?

Yes__ No__ Do not know__

43. Are there any additional comments you would like to make? _____

Thank you for your time.

APPENDIX G:

Residence Life Interview Generalizations

Table 49. Residence Life Interview Generalizations

	UNF	FAU	UF	FSU	UWF	NCF	USF
Familiar with emergency operation plans & procedures	Y	Y	Y	Y	Y	Y	Y
Familiar with evacuation plans	Y	Y	Y	Y	Y	Y	Y
Received personal training	Y	Y	Y	Y	Y	Y	Y
Know shelter locations	Y	Y/N	Y	Y/N	Y	Y	Y/N
Univ. prepare residents	Y	Y	Y	Y	Y	Y	N
Aware of resident composition	Y	Y	Y	Y	Y	Y	Y
Students required to live on campus	N	Y	N	N	N	Y	Y
International students live on campus	Y	Y	Y	Y	Y	Y	Y
Special needs students live on campus	Y	Y	Y	Y	Y	Y	Y
All residents permitted to have cars	Y	Y	Y	Y	Y	Y	Y
Needs of international residents taken into consideration	Y	Y	Y	Y	Y	Y	Y
Needs of special needs residents taken into consideration	Y	Y/N	Y	Y	Y	Y	Y
RLC made aware of international students in residence halls	Y	N	Y	N	Y	Y	Y/N
RA made aware of international students in residence halls	Y	N	Y	N	N	Y	Y/N
Residents represented in emergency planning	Y/N	Y/N	Y	Did not know	Y	N	Did not know
Residents invited to form an advisory committee	N	N	Y	N	Y	N	Did not know
Assess residents	Y/N	N	Y	N	Y	N	N

Table 49. Continued

	UNF	FAU	UF	FSU	UWF	NCF	USF
All Residence Life employees required to complete training	Y	Y	Y	Y	Y	Y/N	Y
All Residence Life employees informed of univ. emergency operation procedures	Y	Y	Y	Y	Y	Y	Y
Residents provided with emergency information	Y	Y	Y	Y	Y	Y	Y
Residents educated on evacuation Procedures	Y	Y	Y	Y	Y	Y	Y
Residents provided with contact information of individuals they can turn to for guidance	Y	Y	Y	Y	Y	Y	Y
All Residence Life employees required to stay and assist residents	Y	Not all	Y/not all	Y	Not all	Y	Not all
All Residence Life employees required to stay on campus until residents have evacuated	Not all	Not all	Not all	Y	Not all	Y	Not all
Campus residents accounted for	Y	Y	N	N	N	Y/N	Y
Emergency housing plan in place	Y	Y/N	Y	Y	Y	N	Did not know
Key personnel contact information updated annually	Y	Y	Y	Y	Y	Y	Y
Key personnel have plans for themselves and their families	Enc.	Enc.	Enc.	N	Enc.	Y	Enc.

Note: Highlight indicates concern. Enc. = Encouraged. Y = Yes. N = No. RLC = Residence Life Coordinator. RA = Resident Assistant.

APPENDIX H:

Storm-Ready Program Guidelines

Information and charts taken from National Weather Serve StormReady! – How to become StormReady at http://www.stormready.noaa.gov/howto.htm by Donna Franklin (2012).

More detailed information can be found at the site provided above.

Guidelines	Population			
	< 2,500	2,500 - 14,999	15,000 - 40,000	> 40,000

Guideline 1: Communication & Coordination Center

Established 24 hr Warning Point (WP)	X*	X*	X	X
Establish Emergency Operations Center		X*	X	X

- Must have a 24-hr warning point to receive National Weather Service (NWS) information and provide local reports and advice.
- Jurisdictions with more than 2,500 people need an Emergency Operation Center (EOC), which must be staffed with an emergency management director or designee.

Guidelines	Population			
	< 2,500	2,500 - 14,999	15,000 - 40,000	> 40,000

Guideline 2: National Weather Service Warning Reception

Number of ways for EOC/WP to receive NWS warning, etc.	3	4	4	4

- Warning points and EOCs must have multiple ways to receive NWS warnings.

Guideline 3: Hydrometeorological Monitoring

Number of ways to monitor hydrometerological data	1	2	3	4

- Must create a system that monitors weather conditions locally

Guideline 4: Local Warning Dissemination

Number of ways to monitor hydrometerological data	1	2	3	4

- Must have one or more means of ensuring timely warning dissemination to citizens.

Guidelines	Population			
	< 2,500	2,500 - 14,999	15,000 - 40,000	> 40,000

Guideline 5: Community Preparedness

Number of annual weather safety talks	1	2	3	4
Train spotters and dispatchers biennially	X	X	X	X
Host/co-host annual NWS spotter training				X

- Must promote community and public preparedness/readiness through community seminars.

Guideline 6: Administrative

Formal hazardous weather operations plan	X	X	X	X
Biennial visits by emergency manager to NWS	X	X	X	X
Annual visits by NWS official to community	X	X	X	X

- Must develop a formal hazardous weather action plan, which includes training severe weather spotters and holding emergency exercises. This plan must be approved and in place.