



A Resource of the State of Florida

**Hurricane Loss Reduction  
FOR  
HOUSING IN FLORIDA:**

**HURRICANE CHARLEY:**

**FIELD RESEARCH  
IN THE IMMEDIATE AFTERMATH**

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## **EXECUTIVE SUMMARY**

A team of social scientists led by Dr. Betty Hearn Morrow and Dr. Dario Moreno conducted field work and interviews in the areas of Port Charlotte, Punta Gorda and Arcadia during the first week after Hurricane Charley made landfall on August 13, 2004. Interviews were conducted in shelters, relief centers, disaster application centers, and citizens' homes, as opportunities and issues developed. An open-ended survey instrument was used, supplemented by taped and transcribed remarks. In total 100 interviews were conducted and 92 survey forms completed. While not a random sample, the attributes of respondents reflect a diverse cross-section of Floridians. In addition to these data, subsequent interviews by Dr. Morrow with emergency managers in four counties, a FEMA official, two volunteers and broadcast meteorologists from four media outlets inform this report.

The findings cannot be generalized to the population at large, but provide insight into what some of the storm's most affected citizens were thinking prior to the storm, what protective actions they took, what they think they would do the next time, and how they are faring in the immediate aftermath. Several dominant themes are revealed.

### **Lack of Attention to Hurricane Watch**

While most people were following the storm's path in the days prior to landfall, they did not foresee any real danger to themselves and their property. They were focused on the track center and the media predictions of landfall around Tampa. Despite the fact that their area was within the cone of uncertainty for about 4 days, under a Hurricane Watch for almost 35 hours and a Hurricane Warning for nearly 23 hours, they did not start taking serious notice until the track changed a few hours before impact. Therefore, only minimum preparations were made.

### **Lack of Relevant Experience**

A major hurricane had not made landfall in this region in 35 years, and many residents were new to the area. There was a general lack of real hurricane experience, yet this area had been under numerous watches and warnings within the last several years. This resulted in a tendency to not take the messages seriously. Most reported expecting to get only a "little wind and rain."

### **Future Shadow Evacuation**

Only about 30% of those interviewed had evacuated, mostly from mobile homes. In addition to not being ordered to evacuate, other constraints were lack of time, transportation, and refusal to leave pets. What is most interesting is that most who stayed said they would leave the next time. Past research indicates that this will decline over time, but there may be a tendency toward over-evacuation in this area in the future.

### **Lack of Interest in Mitigation**

Little mitigation has occurred in this area of Florida. This can partially be explained by lack of experience, but even among those who went through the worse of this storm, there appeared to be little if any interest in hurricane shutters.

### **Inaccurate Perception of Manufactured Home Safety**

About 17% of the interviewees were residents of manufactured housing. They were well aware that newer homes had been built to stronger codes and tended to fare better in this storm. This appears to have given a false sense of security. About 42% said their manufactured home would be safe in future hurricanes.

### **Renter Vulnerability**

Over 1/3 of those interviewed in shelters and assistance centers were renters, pointing to the high vulnerability of this population. There was no evidence of mitigation or preparation in rental housing. Many had lost most or all of their possessions, and very few had insurance. Some were still living in badly damaged structures with no assistance from landlords. Since renters tend to be poorer, they often lack resources to get through a crisis. Mitigation efforts in rental housing could greatly reduce the economic costs associated with sheltering, temporary housing, and public assistance.

### **Stress**

As expected, many people were having a difficult time emotionally. While this is particularly understandable among persons and families forced to live in shelters, even among those who had not lost their home, there were many reports of emotional problems such as nightmares, inability to sleep, uncontrolled crying, and children acting up. The loss of control over daily circumstances caused a great deal of stress. This was particular true among those who still had personal possessions in damaged homes but no way of protecting them from the elements or moving them to a secure place.

### **Inland Counties Less Prepared**

While the emergency managers in the inland counties heavily impacted by Hurricane Charley, they appeared to be performing extraordinarily given the circumstances, even though most were not well prepared. Inland citizens were not paying attention to the storm's development. Clearly, many Florida residents believed only coastal counties were in danger.

### **Emergency and Relief Efforts Going Well**

The public and private response to this hurricane was impressive. Emergency and relief efforts were progressing with speed and efficiency. State and local officials were doing a good job of coordinating volunteers and services.

## **HURRICANE CHARLEY: FIELD RESEARCH IN THE IMMEDIATE AFTERMATH**

### **The Setting**

Hurricane Charley made landfall on the southwest coast of Florida near Captiva Island around 3:45 pm on August 13, 2004 as a Category 4 storm with estimated sustained winds near 150 mph. It then continued in a northeastward track, making landfall at the mouth of the Peace River, directly impacting Port Charlotte and Punta Gorda. It continued inland causing extensive damage in the Arcadia area and still had winds estimated at 85 mph when it crossed the Kissimmee-Orlando area and was still a Category 1 when it exited the state near Daytona Beach early on August 14<sup>th</sup>. There were 15 tornadoes across the state associated with Charley. The results were 10 direct and 14 indirect deaths and economic losses estimated at \$14 billion. It was the strongest tropical storm to make landfall in the U.S. in 12 years, but fortunately had a small radius and moved quickly. As the season evolved, it proved to be the first of four to impact Florida.

### **The Research Team**

Under the initiative of Dr. Stephen Leatherman, Director of the International Hurricane Research Center (IHRC), a team of social scientists gathered at Florida International University just three days after Hurricane Charley made landfall. Led by Dr. Dario Moreno from FIU's Metropolitan Center and Dr. Betty Hearn Morrow from the IHRC, the team made plans to enter the field immediately to capture early citizen and community response. A survey instrument was developed to guide data collection, travel plans made, and the team was in the field by August 18, five days after impact.



Michelle Martin joined the team for one day of interviewing. Michelle was working on a program on hurricanes for BBC Radio.



In addition to these interviews, this report is informed by additional fieldwork and interviews conducted by Dr. Morrow as part of a NOAA Service Assessment for Hurricane Charley conducted in the same region August 9-15.

### **The Sample**

Interviews were conducted as opportunities and issues developed, essentially resulting in a convenience sample. Therefore, this work cannot be generalized to the larger population that experienced Hurricane Charley. Rather the intent was to capture a snapshot of experiences and attitudes in the immediate aftermath. Since most of the interviews were conducted in public places where people were seeking services and assistance, many of them living in shelters, they represent some of the most intense citizen experiences. Being a non-random sample, it is especially important to know something about respondents' attributes. While not randomly selected, they represent a diverse cross-section of Floridians.

### Sample Characteristics

Attribute	Percent
Gender	
Female	52
Household Composition	
Couples with children	29
Couples no children	29
Single adults living alone	24
Other	18
Homes	
Single Family	71
Mobile Home	17
Duplex, Condo, Apartment, Other	12
Tenancy	
Owners	64
Renters	36
Age	
Under 35	21
36-65	35
Over 65	24
Income	
Under \$10,000	15
\$10,000 - \$25,000	29
Between \$25,000 - \$75,000	44
Over \$75,000	12
Minority Status (not mutually exclusive)	
Black	13
Hispanic	16*

\*May be underrepresented since most interviews were conducted in English.

Most had never experienced a hurricane directly although many had been under previous watches and warnings. About one-third had moved to Florida within the last 10 years and about 70% had lived in their current home less than 10 years. About 80% of the households were composed of two to four people. Perhaps most important to public officials is that nearly 10% of these displaced or seriously affected respondents lived in households with six or more people.

In addition to the citizen interviews, this report reflects taped interviews with emergency managers in four counties, one FEMA official, two volunteers, and media from four stations in the area. Additional informal discussions were held whenever circumstances were not appropriate for formal interviewing.

## DATA ANALYSIS

The nature and size of the sample does not allow multivariate analysis. However, the frequencies supplemented by more extended remarks of the respondents do provide insight into what these Charley survivors were thinking prior to the storm, what, if any, protective actions they took, what they think they would do the next time, and how they are faring in the immediate aftermath. Several dominant themes are revealed which may be helpful to state and local officials.

### Lack of Attention to Hurricane Watch

The vast majority watched the storm's progress for several days prior to landfall. Nearly 90% reported television as their prime information source. The local Fort Myers station (WINK) was most often mentioned. It is interesting that a little over 1% used the internet for additional storm information. While most completed some minor preparations such as getting in water and food, they did not believe Hurricane Charley posed much danger as it approached the coast of Florida.

<u>Perception of Danger</u>	<u>Percent</u>
Not dangerous at all	25
Only a little dangerous	15
Somewhat dangerous	35
Very dangerous	26
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n=89	

A partial explanation lies in the development of the storm. This hurricane was Category 2 until it intensified rapidly before landfall to a Category 4. It also made a slight track change just hours before impact. Several broadcast meteorologists began predicting landfall in the Port Charlotte/Fort Myers area late Friday morning, and the National Hurricane Center issued a report to that effect about 1:00 pm on Friday, August 13. The storm made landfall at about 5 pm.

Nearly everyone interviewed said they thought the storm was going to hit the Tampa area.

“All day Thursday they said it was supposed to hit Tampa, so we stayed.”  
(Venice mobile home resident)

“I never expected it. It was going to hit Tampa.”  
(Port Charlotte resident)

“We kept hearing it was going to Tampa. That’s what we kept hearing. Even on Thursday, the day before the storm.” (Charlotte Harbor resident)

“I heard it was headed toward Tampa and we thought we were pretty safe until an hour before.”  
(Mother whose husband is in Iraq)

“They didn’t say anything about Arcadia. They said Tampa or Bradenton.”  
(Arcadia mobile home resident)

While most acknowledged that hurricane forecasting is an inexact science and praised the forecasters, some were upset about the short time frame before a direct hit. About one-third felt they did not receive adequate information to make their decisions about preparation and evacuation.

In reality the National Hurricane Center did an excellent job of forecasting this storm. According to the NOAA assessment the 24-, 48-, and 72-hour forecast errors were 9%, 43%, and 19% better than the 10-year average, respectively. It is important to note that at the time of landfall, Captiva Island, Punta Gorda, and Fort Myers areas had been:

- In the cone of uncertainty for almost 4 days
- Under a Hurricane Watch for almost 35 hours
- Under a Hurricane Warning for almost 23 hours, and
- In the 50% probability of the striking area about 11 hours.

So why didn’t they take the threat more seriously? Two factors appear to have been important – a long history of warnings with no serious impact, and too much attention to the center of the forecast track.

### **Lack of Relevant Experience**

The last major storm to impact the area was in 1960 so most residents had no relevant hurricane experience. Yet, they had been through numerous warnings over the years. This resulted in many not taking this warning seriously. Across ethnicity and age groups, most were watching the storm on a regular basis, but not expecting to get more than “a little wind and rain.”

“They always exaggerate and it goes the other way.”  
(Puerto Rican mother of 5)

I didn’t think it was dangerous at all. I thought it was another false alarm.”  
(African American homeowner)

“They always say hurricanes are going to hit Port Charlotte.”  
(Young Hispanic man)

“I had never been through one so I didn’t know what to expect.”  
(Port Charlotte Anglo woman)

“Every year you wait and wait and after 21 years you don’t expect it to hit.”  
(Elderly woman)

“I didn’t think it was going to be anything. The news usually hypes things up.”  
(Punta Gorda Anglo man)

“I never had any idea it could even get that bad.”  
(New Florida resident five miles inland)

### **Focus on Track Center**

The best explanation for complacency in the days preceding landfall, however, was that area residents were focused on the center of the forecast track, not the cone of uncertainty. Most television visualizations of the storm had the cone marked with a center line and mentioned Tampa as the probable landfall point over and over in the days preceding the storm. Several broadcast meteorologists expressed frustration about this issue.

“If I said it once, I said it 500 times. Do not look at the red line. Look at the fan...I said anyone who goes on television or tells you that they know where this is going to make landfall is being totally irresponsible...Some said they were surprised at Punta Gorda. That was 100% because too many people were focusing on that line.”  
(Tampa broadcast meteorologist)

“...people will see that graphic on the air and they’ll just focus on the graphic and not what you’re saying...You have to keep it simple for people. All they see on the track is that line. They don’t see the cone.”  
(Another Tampa meteorologist)

“I was beating home to the public the fact that you don’t want to concentrate on the white line, it could deviate left or right. Unfortunately, I still think the viewers saw that white line over Tampa Bay for about 5-6 advisories in a row where it never wavered. It was on Tampa Bay for two days...people start saying they’re pretty confident in this.”  
(A third broadcast meteorologist)

The most important contribution of Hurricane Charley to future mitigation may be that it has already caused a change in hurricane track visualization by the broadcast media. Several said they no longer plan to mark the center line of the cone. (A few had not done it for Hurricane Charley.)

In fact during the next three storms to hit Florida during the 2004 season most forecasters did not use a track line, but rather marked points to show position at different times. More attention seemed to be directed to the entire area covered by the cone of uncertainty. This is a subtle change, but it may invoke a different citizen response. More behavioral research on the perception of various types of warning messages could yield very worthwhile results.

### **Little Preparation**

About 80% had made some preparations prior to landfall although this tended to involve minor activities such as collecting supplies and securing loose objects outside. More than two-thirds had no window coverings, and only a handful had commercially installed shutters. Most of the preparations were frantic attempts during the last couple of hours before impact. About 60% said they would have done something different if there had been more time or resources available.

“I’d prepare as soon as they started talking about it. We waited until it was too late.”  
(Port Charlotte homeowner)

“Living alone without a male to help there wasn’t a lot I could do.”  
(Elderly woman)

### **Evacuation Constraints**

Regardless of living in highly impacted areas, only about 30% had evacuated and these were almost entirely from mobile homes. Of the others, most said they had not been advised to evacuate. In fact many reported officials telling them not to leave because it is was too late to get out of the area safely. Even those following the storm closely had sometimes waited too long, lacked shelter information, or had some other reason for staying.

“I wanted to get out. I was scared, but my car doesn’t run right.”  
(Port Charlotte single mother)

“I have no transportation, but if I could get out of the area I’d go.”  
(Elderly woman living alone)

“We didn’t know where to go. We decided to stay here.”  
(Arcadia man living in a mobile home who evacuated with his children at the last minute to a nearby store that was nearly destroyed)

“I am disabled and I called the Charlotte County emergency people and they said I wasn’t going to be evacuated...I think they should have transported everybody who was disabled...” (Woman in a wheelchair)

“By the time it was a 4, it was too late to go.”

(A Punta Gorda woman who went through several harrowing hours with her young son, trying to protect the windows of her rented home with mattresses and dressers)

One problem is that Charlotte County is entirely in a flood zone. Therefore, there are no approved shelters.

“Our thinking now is short-distance evacuation, or stay home. It might be a nuisance. You might get a foot or two of water in your house, but it’s not going to kill you.”  
(Charlotte County official)

As in past storms, the persistent pet issue came up. Nearly half of our interviewees had pets and several said they would not leave them.

“Most shelters and motels won’t accept pets. This is why we did not consider leaving.”  
(Waterfront homeowner)

Some residents were afraid that if they left they would have trouble getting back in time to save their property. Looting was a concern and in fact one man said the trailer he used for his lawnmowing business had been stolen while he was living in a shelter. They also worried about further rain damage occurring before they could return.

“I have neighbors that left and couldn’t get back for 3 or 4 days. I think a lot of things could have been saved if they had gotten back sooner.”  
(Waterfront resident who did not evacuate)

Some waterfront residents had taken the surge estimates literally. Several had measured the elevation of their home and either determined they would be safe, or moved their important belongings just high enough to be out of harm’s way. This was an important factor in their decision not to evacuate.

While most couples reporting making the evacuation decision together, in some cases there was disagreement. Several mentioned that it was the husband’s decision to stay.

“She wanted to get out more than I did.”  
(Punta Gorda Isles resident)

“He didn’t think it was going to be that bad.”  
(Woman living on waterfront)

“My husband made the decision not to leave.”  
(Punta Gorda Isles resident)

This coincides with past research on evacuation decisionmaking, but points to the need for further behavioral analysis.

### **Future Shadow Evacuation**

Many who stayed had gone through a harrowing ordeal, enduring the storm’s high winds for several hours, often as parts of their home blew away. If they had not encountered serious impact directly, they had been deeply affected by the destruction they saw around them after the storm. This had changed their perceptions of hurricane danger in general, and they reported a significant change in future evacuation plans. When asked what they would do when another hurricane approached their area, the answers leaned heavily toward evacuation.

### **Future Evacuation Plans**

<b>Anticipated Action</b>	<b><u>Percent</u></b>
Probably stay in my home	21
Move to a safer structure in the area	21
Leave the area entirely	33
It would depend on the storm’s intensity	25
n = 86	

There was strong sentiment toward leaving the next time, posing a possible concern for state and county emergency managers.

“I’d get the heck out of the state next time.”  
(Arcadia renter)

“I would take it a lot more seriously after the damage I’ve seen. I originally wanted to stay in my house and ride out the storm. I’d never do that now.”  
(Venice homeowner)

“The next one we’re getting out of here. I would hurricane-proof the house and go.”  
(Port Charlotte couple)

“I would have gotten the hell out of there if I could have. It was too late to leave. Next time I would definitely leave the area.”  
(Young Hispanic woman)

“I would have shuttered and left to New Jersey.”  
(New Florida resident)

“I think we would head north next time – to Pennsylvania where we’re from.”  
(Port Charlotte homeowner)

“I’d get out next time. Go to the other side of Florida.”  
(Punta Gorda resident)

“If I’d known it was going to be that bad I would have gotten out of town. I’d get as far away from here as possible.” (Port Charlotte woman)

“We would leave for any storm forecast to make landfall 200 miles in either direction.”  
(Punta Gorda couple)

It should be noted that this is a typical finding. After experiencing a major storm, people tend to say they will leave the next time. However, previous research indicates that evacuation intent tends to decline with time. It will be very interesting to see the evacuation rates for this area from subsequent hurricane threats.

### **Effects of False Experience on Future Mitigation**

In many ways a more serious issue was “false experience,” – those who had gone through this storm to some degree or other and felt it was a sign that their home would be safe in any future storm. This should be of particular concern to emergency managers in the coastal areas. For example, Punta Gorda Isles is sited at the mouth of the Peace River, exactly where this storm made landfall. Most of the upscale homes have been built since the new building codes and appear well built. These homes did very well in this fast-moving storm, mostly losing roof tiles and pool cages.



Only a handful had any window coverings. The lack of window damage is probably best explained by the fast movement of the storm. The lack of water damage is explained by their elevation and a relatively low surge. This has left what could be considered a false sense of security in the community. Most interviewees in that community said they had no plans to purchase shutters and many said they would stay again the next time.

“We’d probably stay now that the house lived through 190 mph winds.”  
(Punta Gorda Isle resident)

“There were a lot of people who had hurricane shutters who have a lot more problems than we have.”

(Punta Gorda Isle resident)

### **The Damage**

The pattern of destruction from this storm was spotty. Some areas, such as a several blocks in Port Charlotte and Charlotte Harbor were nearly totaled, similar to Hurricane Andrew damage. Throughout the area some structures were left nearly intact while those nearby were badly damaged. In general the damage tended to be external with no loss of structural integrity. Many roofs were compromised, causing extensive rain damage. While some trees were felled, most were not. Given the wind intensity the damage could have been much worse if the storm had moved more slowly or had a larger radius. Nevertheless, the area was heavily impacted.

As later verified by engineers and researchers, homes built since the statewide building codes were adopted tended to fare much better. Most of the total destruction occurred to older homes.



Many commercial buildings sustained major damage or were destroyed. Clearly, they had not been built to withstand hurricane winds. Stricter codes would likely have lessened the economic impact and job loss.



Since most interviewing occurred at shelters and assistance centers, it is not surprising that a great deal of home damage was reported. Some were dislocated due to lack of power and water, but nearly 40% were currently without a place to live.

<u>Home Damage</u>	<u>Percent</u>
Completely destroyed	26
A great deal of damage	14
Some damage	26
Very little damage	33
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n = 90	

The dislocation problem was particularly acute in rural areas where alternative housing was scarce or non-existent.

“Our house is totaled. The roof is gone. Everything inside is wet and mildewed... We have no place to live. The whole town is destroyed so there are no homes to rent or buy.”

(Arcadia woman)

## **Insurance**

Only about 60% of the homeowners in our sample reported having insurance. This low rate can be partially explained by the locations where the interviews took place. Insured owners were more likely to have secured other temporary housing.

Of those with insurance slightly over half had already heard from their insurance companies.

Only 11% of renters reported having insurance on their personal property. Most did not seem aware that it was even available.

## **Inaccurate Perceptions of Manufactured Home Safety**

About 17% of our interviewees were residents of manufactured housing. As always, there was ample evidence of mobile home destruction throughout the area.



Two-thirds said they knew their homes had tie-downs, a few having been inspected and replaced in recent years. Clearly, many did not.



While most of their homes had been completely destroyed, a few reported little damage. It was common knowledge that the newer manufactured homes such as the one below had done better. However, this was often construed to mean that new manufactured homes were safe in hurricanes.



In spite of the efforts of public officials there is still a misperception about the safety of manufactured homes. When asked if they thought theirs was safe in a hurricane, 42% said yes.

Some mobile home residents evacuated to community centers in their parks. It was reported that the center in at least one park had been inspected and approved for up to a Category 2 storm. We heard reports, however, of centers that received major damage during the storm, terrifying the residents inside. We interviewed one woman who had endured the storm in a small structure in an RV park and still appeared to be in shock.

Recreational vehicles and motor homes were destroyed throughout the area. While some had been inhabited prior to the storm, many were the winter homes of northerners and were not occupied at the time. Since they weren't tied down many became dangerous missiles.



These recreational vehicles pose a risk to nearby structures and create hazardous conditions after a storm.



## Renter Vulnerability

It is important to note that over 1/3 of those interviewed in shelters and assistance centers were renters. These were some of the saddest stories we heard – people whose rented homes or apartments had sustained major damage, had their belongings destroyed by water either during the storm or later, and now were homeless and living in shelters with little or any personal effects. Ironically, many had lived in public or subsidized housing. Many were frustrated at not being allowed to return to collect whatever could be salvaged from their apartments. Some were still living in badly damaged rented homes or apartments.



All reported that their landlords did little, if anything, to mitigate or prepare for hurricanes, including this one. None had installed shutters.

“The landlord did nothing except flip over some picnic benches.”  
(Punta Gorda public housing resident)

“My landlord didn’t do anything except tell us to evacuate afterwards.”  
(Port Charlotte single mother)

For whatever reasons, some landlords were doing nothing to secure and/or repair damaged buildings. Residents had either been evicted, sometimes by authorities, or were living in damaged buildings.

“I have to live with the leakage. It’s hard. Every time it rains, it pours in. I can’t get the landlord to do anything.” (Port Charlotte tenant)

As mentioned earlier, few had renters’ insurance on their personal property. These households will require a great deal of public assistance and are likely to be the last to recover.

### **Inland Counties Caught by Surprise**

One important lesson to be learned from Hurricane Charley is the extent to which inland counties can be affected. This hurricane left a path of destruction all the way across the state. Hardee, Polk and DeSota counties, in particular, had extensive damage and little time to prepare. Given the circumstances, the low death toll can be attributed largely to the fast response of emergency managers.

“When we realized we had a Category 4 coming our way in less than two hours when it made its turn, I sheltered 1500 people in an hour and 15 minutes. We evacuated our medical facilities in that same time period...I had 60 people in this building during the storm. We were fully activated and ready to go. When the wind stopped, we hit the ground running.”

(Hardee County official)

Part of the roof collapsed in the only official shelter in DeSota County while 1200 people were sheltered inside. The emergency manager estimated a loss of 6000 homes, or about 16,000 residents who were either homeless or living in partially destroyed homes. Polk County sheltered over 7000 residents and estimated over 500 totally destroyed homes, about 60% of which were mobile homes. The emergency manager in Hardee County estimated that about 75% of their homes had sustained serious damage and over 900 single family homes and 500 mobile homes were destroyed or heavily damaged.

Many residents of these inland counties were already living on the economic margin, such as the farmworkers in Nocatee, south of Arcadia. They lacked even the basic necessities and had to rely on outside help which tended to arrive slower than in coastal counties. Those we interviewed from around the Arcadia area clearly were not watching the storm closely and never expected to be impacted by it. The first some knew about it was when the rains began early Friday morning.

“Nobody in Arcadia thought it was coming this way. Traditionally, the storms go up the coast and everybody comes to Arcadia to get away.”

(Arcadia resident)

Many had lost their jobs as well as homes. The emergency manager in Hardee County estimated that 90% of their small businesses were destroyed, as well as their citrus crop. They had lost 60% of their ad valorem tax base.

## Stress

Nearly half of the interviewees reported that they or a member of their family was having a difficult time dealing with the stress. We heard reports of nightmares, panic attacks, children acting out, and adults crying at inappropriate times. It is not surprising that families living in shelters were stressed, but some who had been spared homelessness also reported emotional problems.

“After the storm we were both shaking when we came out of the laundry room. I don’t think I’ve recovered yet. Every time I go out to do something, it really bothers me. It’s upsetting. As tired as I am, I have trouble sleeping.”

(Punta Gorda Isles man)

“We’re getting on each other’s nerves”

(Port Charlotte couple without electricity)

“This is very stressful for me. [crying] It’s been terrible. I really don’t know what I’m going to do.”

(Elderly woman living in a shelter)



“Everything is madness. Chaotic. You don’t know what you’re doing. One minute you have a house, your family is living in a house, the next you don’t... I can only do so much. I’ve only got one car.”

(Very distressed young man in front of destroyed home)

“I have a house full of stuff that isn’t hurt, but ... have no truck to haul it, no storage.”  
(Mobile home resident)

This problem of not being able to salvage property before further damage was a common source of concern and stress.

### **Emergency and Relief Efforts**

The extent to which the hurricane victims in the Port Charlotte – Punta Gorda area received relief assistance was an important success story. Many people complimented the performance of their public officials, as well as volunteers. While emergency help was slower getting to the inland areas, nevertheless by the end of the first week distribution centers were visible throughout the area.



“The relief has been fantastic whether Red Cross, Salvation Army or groups from different cities and towns. They say, what can we do to help.”  
(Mobile home resident)

“We started hearing helicopters Saturday and help arrived on the ground by Sunday.”  
(Elderly man volunteering at a church)

“I found out how nice people can be. I love the people here.”  
(Woman living in a shelter)

“The National Guard is coming through our neighborhood all night. They are really patrolling. That makes you feel secure.”

(Punta Gorda resident)

Of course, there were some complaints about the county response.

“The county wasn’t prepared to handle this... They should be more prepared to handle handicapped people.

(Charlotte County disabled woman)

Private churches and service organizations, many from outside the state, were very active in providing relief supplies and services. At the distribution center below the Convoy of Hope, a religious network out of Missouri had already brought in 50 truck loads, (estimated at over two million pounds) of water, food, batteries and other necessities within five days.



One of the most interesting relief efforts was a feeding station set up in an affluent neighborhood by a real estate developer hoping to get approval for a new project in the community. They were feeding over 200 people three meals a day in a large tent and planned to continue until electricity was restored.



Thousands of damaged roofs had been temporarily patched or covered, many by volunteers. This massive national response may be explained in part by the fact that this was the first major hurricane to impact the U.S. in several years.

Another success story was how rapidly the utilities were being restored. Hundreds of utility trucks had converged on the area and pledged to have all electricity restored by the end of the month. As it turned out, they beat their own goal and most homes had power within two weeks.

It was too early to assess how the disaster assistance application process was going, but there had been some early glitches. The only way to apply to FEMA was by telephone and the phones were down. The FEMA assistance center had a few phones, but they didn't always work.

“Last night we had so many people, I had to stop 200 and they had sat here all day long... But the phones went down and there was nothing we could do.”

(FEMA official)

Early impressions were that state and local authorities were doing an excellent job of coordinating public and private relief efforts. The contrast to the Hurricane Andrew response 12 years earlier was profound.

## CONCLUSIONS

This exploratory research conducted in the immediate aftermath of Hurricane Charley cannot be generalized beyond our sample. However, the work points to several issues for possible consideration by state and local authorities.

- People still do not understand hurricane track probabilities and pay too little attention to the entire cone of uncertainty.
- Inland counties were not as prepared.
- “False experience” continues to be a problem in getting people to react appropriately to hurricane watches and warnings.
- Shadow evacuation is likely to be a future problem in this region.
- Household evacuation decisionmaking is a complicated process.
- Renters are among the most vulnerable groups, and they make no preparations for hurricanes.
- There is little if any mitigation occurring in rental housing.
- Residents of this area are not interested in hurricane mitigation.
- Misconception persists about the hurricane safety of manufactured homes.
- Recreation vehicles create hazardous conditions during and after hurricanes.
- Rapid access to trucks and storage pods could reduce much of the stress and economic costs associated with leaving personal property exposed to the elements in damaged homes.
- Relief efforts for Hurricane Charley were timely and efficient.
- Emergency management at the state, regional and local levels appeared well coordinated and effective, especially given the circumstances of this hurricane’s development.

## Report Submitted to the International Hurricane Research Center

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