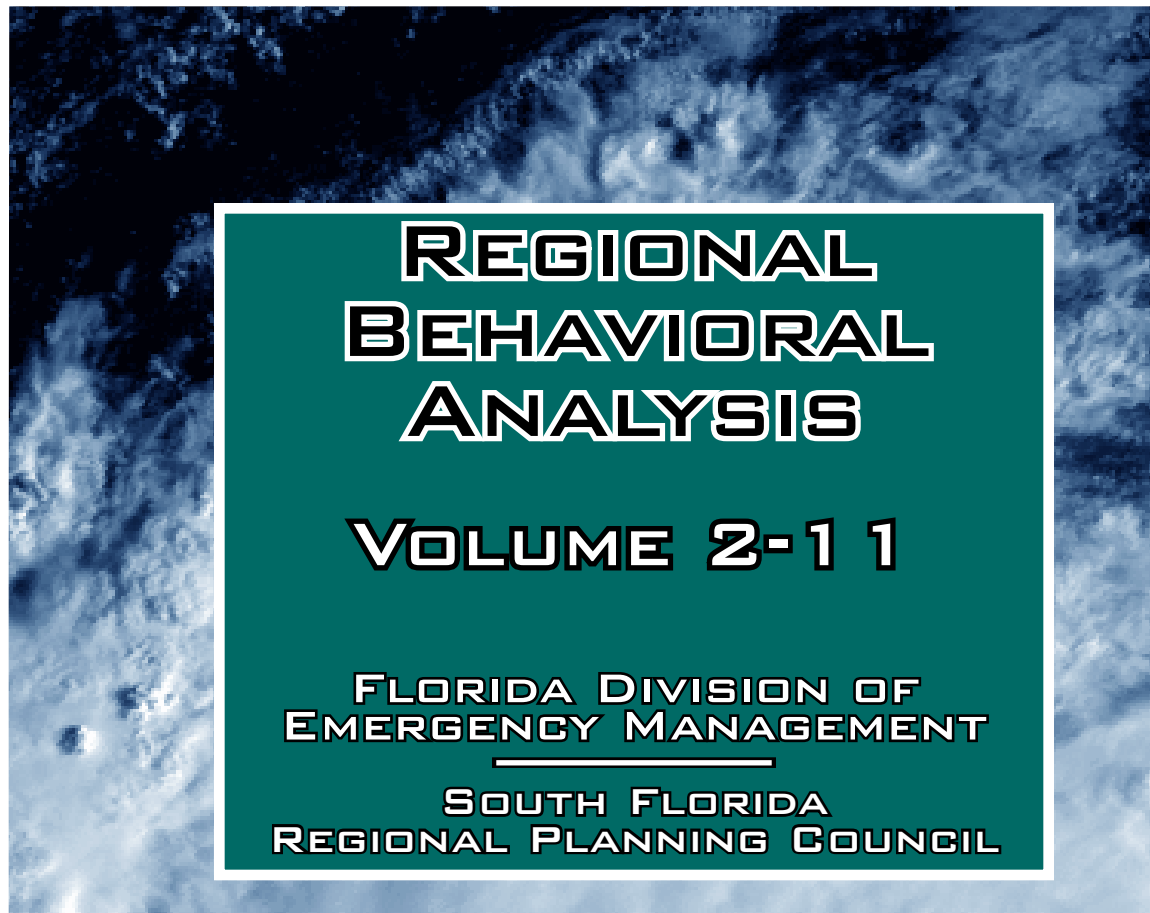




# FLORIDA STATEWIDE REGIONAL EVACUATION STUDY PROGRAM



## REGIONAL BEHAVIORAL ANALYSIS

### VOLUME 2-1 1

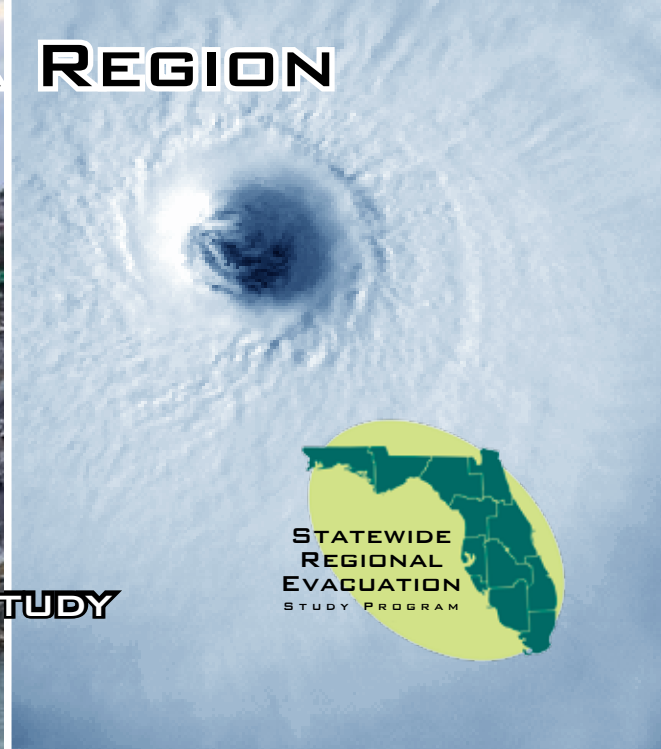
FLORIDA DIVISION OF  
EMERGENCY MANAGEMENT

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SOUTH FLORIDA  
REGIONAL PLANNING COUNCIL



## SOUTH FLORIDA REGION



INCLUDES HURRICANE EVACUATION STUDY







**Volume 2-11**

**South Florida Region**

**Regional Behavioral Analysis**

Prepared by

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## Table of Contents

I. Introduction .....	1
II. Methods .....	2
A. Data Collection and Sample Sizes .....	2
B. Questionnaire .....	2
C. Use of Survey Findings .....	3
D. Sample Size Considerations.....	5
III. Planning Assumptions for Residents.....	6
A. Organization of Tables.....	6
B. Working Data Tables .....	6
C. Evacuation Rates.....	7
D. Out-of-County Trips.....	8
E. Type of Refuge .....	8
F. Percent of Available Vehicles.....	9
G. Evacuation Timing.....	9
IV. Planning Assumptions for Vacationers .....	13
A. Evacuation Rates.....	13
B. Type of Refuge .....	13
C. Destinations.....	13
D. Vehicle Use.....	13
E. Evacuation Timing.....	13

## List of Appendices

Appendix A Planning Assumptions .....	15
Appendix A-1 Planning Assumptions for Broward County.....	17
Appendix A-2 Planning Assumptions for Miami-Dade County .....	23
Appendix A-3 Planning Assumptions for Monroe County .....	29
Appendix B Working Data Tables .....	35
Appendix B-1 Broward County Working Data Tables .....	37
Appendix B-2 Miami-Dade County Working Data Tables .....	42
Appendix B-3 Monroe County Working Data Tables.....	47

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# Statewide Regional Evacuation Study Program Behavioral Analysis

## South Florida Region

### I. Introduction

A study was conducted to provide guidance in selecting behavioral assumptions to be used in evacuation transportation modeling and shelter planning. For residents the process included telephone interviews with residents of the region and analysis of that and other data to derive indications of how the population would respond in the event of certain threats, most notably hurricanes. The Statewide Regional Evacuation Study Program survey data was used in conjunction with data from previous evacuation surveys to derive probable behaviors to be used as planning assumptions. For tourists planning assumptions were based on generalizations about tourist behavior in hurricane evacuations derived from previous studies. Statewide Regional Evacuation Study Program transportation and shelter analyses might employ behavioral assumptions that differ from those found in this document.

Planning assumptions were developed for five evacuation behaviors:

- **Evacuation rate** – The percentage of people who will leave their home (residents) or accommodation (vacationers) to go someplace safer in response to a hurricane threat.
- **Out-of-county trips** – Percent of evacuating households (residents) or parties (vacationers) who will travel to destinations out of their county of residence (residents) or accommodation (vacationers).
- **Type of refuge** – Percent of evacuating households (residents) or parties (vacationers) who will seek refuge in public shelters, the homes of friends and relatives, hotels and motels, and other locations such as churches and workplaces. For vacationers their own residence constituted an additional type of refuge.
- **Percent of available vehicles** – Vehicles that will be used by evacuating households (residents) or parties (vacationers) as a percentage of the total number of vehicles available in the household that could be used.
- **Evacuation timing** – Percent of total evacuating households (residents) or parties (vacationers) who will leave their homes (residents) or accommodations (vacationers) at various times, with respect to when an evacuation notice is issued by public officials.

## II. Methods

### A. Data Collection and Sample Sizes

To support the behavioral analysis for residents, telephone interviews were conducted by Kerr & Downs Research with 1200 residents of the South Florida region – 400 in each county. In Broward and Miami-Dade the 400 interviews were allocated among evacuation zones after consultation with county emergency management officials in each county. In Monroe County the 400 interviews were apportioned geographically within the Keys, after consultation with county emergency management officials. Sample sizes, also broken down according to whether the respondent lived in a site-built home or a mobile home (including manufactured homes), are shown in Table 1. The total in Table 1 excludes respondents whose residence could not be identified as site-built or mobile home.

Table 1. Sample sizes in South Florida counties

	Site-built Homes	Mobile Homes	SB + MH
Broward Cat 1-2	150	0	150
Broward Cat 3-5	98	2	100
Broward Non-surge	145	4	149
Miami-Dade Cat 1	147	1	148
Miami-Dade Cat 2-5	99	1	100
Miami-Dade Cat 4-5*	49	1	50
Miami-Dade Non-surge	99	1	100
Monroe (Key West)	90	5	95
Monroe (Lower Keys)	93	6	99
Monroe (Middle Keys)	79	17	96
Monroe (Upper Keys)	81	16	97
TOTAL	1130	54	1184

\*Subset of Cat 4-5 storms with unusual attributes

Some questions in the survey were asked of only a portion of the sample. For example, only respondents who were living in the region in 2005 were asked about their response in Wilma. Only those who left their homes to go someplace safer in Wilma were asked where they went when they left their homes. Therefore, for certain questions, sample sizes were smaller than the figures shown in Table 1.

Other surveys with the public have been conducted in the region with respect to hurricane evacuation, both in earlier hurricane evacuation planning studies and in evacuation studies following particular hurricanes. Those studies were consulted to supplement the data collected in the 2007 SRES survey.

### B. Questionnaire

Questions used in the telephone interviews were developed for use statewide as part of the Statewide Regional Evacuation Study. They were supplemented by questions submitted by

the Regional Planning Council on behalf of counties in the region. Most questions in the survey dealt with hurricane evacuation:

- Information sources
- Perceived vulnerability
- Evacuation intentions
- Obstacles to evacuation
- Evacuation behavior in past hurricane threats
- Demographics

In addition to the hurricane questions, a portion of respondents in each county were asked questions about evacuation in freshwater flooding, hazardous material accidents, wildfires, and nuclear power plant accidents.

Responses to all questions in the survey are reported in the *Statewide Regional Evacuation Study Program: South Florida Region Behavioral Survey Report*, prepared by Kerr & Downs Research, including a copy of the questionnaire.

## C. Use of Survey Findings

Responses to individual survey questions alone are not usually good indicators of how residents will respond in actual threats. A mix of the following indicators was used in deriving behavioral assumptions to use in planning:

- Intended responses
- Responses in past threats
- Responses in past threats in other locations
- Factors usually correlated with actual response

### 1. Intended Responses

Some of the survey questions asked respondents what they would do in certain situations – whether they would evacuate, where they would go, and so forth. Answers to those questions constitute intended responses and they provide a very straightforward indicator of behavior. Unfortunately, intended responses often do not match actual responses. That is, people often don't do what they said they would do. In some cases there are statistical adjustments to intended responses that result in much closer matches to actual behavior. For example, in most locations actual use of public shelters is only about half the level indicated by intended response surveys.

### 2. Actual Responses

A number of survey questions asked interviewees how they responded in past hurricane threats. Depending on their county, South Florida survey participants were asked about their evacuation behavior in three of the following hurricanes: Andrew, Frances, Georges, Ivan, Jeanne, and Wilma. Earlier surveys have documented responses in those same hurricanes, as well as others such as Floyd and Michelle. Responses in past threats can be good predictors of future response, but only if the past threats are similar

to future threats, both with respect to the storm characteristics and actions taken by public officials. In most locations in the South Florida Region, past threats from most hurricanes asked about in the survey did not generate evacuations as large as those that could occur in future storms. Therefore, evacuation participation rates observed in those storms are not necessarily the best indicators of what it is reasonable to plan for in future threats. For other behaviors such as type of refuge and destination, past responses can be compared for consistency from one evacuation to another and can be used as a comparison with intended responses.

### **3. Past Response in Other Locations**

Although all places are different, responses and patterns observed in one set of locations are often good indicators of what can occur elsewhere, when conditions are similar. This is particularly useful when planning for threats for which there is no reliable response data for similar threats for the region. As part of the SRES, twelve different hurricane threats were asked about in one county or another. In addition, public response has been documented in many other hurricane threats both in and out of Florida, some of which are relevant to planning in the South Florida region. For example, in the great majority of evacuations fewer than 15% of evacuees leave on their own, prior to an evacuation notice being issued by public officials. Due to the consistency of that finding, it is reasonable to apply it to the South Florida counties.

### **4. Statistical Predictors**

Data from other hurricane evacuation surveys like those described above have been analyzed statistically to identify factors that have been correlated with evacuation behavior. Certain variables have been found to predict actual response better than others. For example, perceived vulnerability, actual vulnerability (e.g., evacuation zone), housing type, and hearing evacuation orders are all good predictors of whether residents will evacuate. The SRES survey measured perceived vulnerability, evacuation zone, housing type, and expectation of being told to evacuate, and those factors were combined to provide an indication of whether interviewees would evacuate in certain storm threats, from certain locations, and from certain types of housing. Other variables were used to provide an indication of other evacuation behaviors.

### **5. Combining Information**

There is no simple one-rule-fits-all technique for using the above information in deriving behavioral assumptions for planning. The best solution is to employ the best available mix of indicators, relying most heavily on the best information available for each behavior and scenario in question, for a particular county and storm threat. When good, reliable actual response information was available for a certain storm threat scenario, it was relied on more than other types of information. When actual response information was lacking, a combination of intended response, trends from other locations, and application of predictor variables were used.

## D. Sample Size Considerations

SRES survey statistics were derived from the sample described previously (section I.A. above). The sample provides an estimate of values for the population of people from which the sample was drawn. For example, a sample of Broward County residents was interviewed for the purpose of estimating how the larger population of Broward County residents would respond to the same questions.

The sampling plan used in the SRES survey was designed to provide statistically useful county-level data, given budgetary constraints. However, sample estimates become less reliable statistically when the responses are disaggregated, as they were in the analyses conducted as part of the SRES. When responses are broken down by evacuation zone within a county and then by housing type, population-level differences among zones and between housing types are not always as large as they might appear in the sample. This is because sampling error increases when sample size decreases. Therefore, differences in the sample might not be large enough to support a conclusion that similar differences exist in the population from which the sample was selected, due to sampling error.

Aggregating results across counties helps overcome zonal and housing disaggregation problems. However, county variations – if they exist – are masked when results are aggregated at the regional level. The analysis looked at survey results at both the county and regional levels, relying on county-level data to the extent that sample sizes justified that level of analysis, but relying more on regional data when county-level sample sizes were too small.

This is especially true for actual response data. Many SRES respondents were not living in their current county when past storm threats occurred, so they were not asked about their response in those storms. If a resident was living in the area at the time but didn't evacuate, that person couldn't be asked where he or she went (e.g., public shelter, out-of-county). Therefore, for certain actual response questions, regional statistics were more meaningful than county statistics.

## III. Planning Assumptions for Residents

### A. Organization of Tables

Planning assumptions for residents are shown in Appendix A. Appearing below each table there is a brief description of the content of the table. At the beginning of the appendices there is an explanation of how to read the tables.

For each county there are 14 tables:

1. Evacuation rate for site-built homes
2. Out-of-county trip rates for site-built homes
3. Percent of available vehicles to be used by site-built homes
4. Public shelter use rates for site-built homes
5. Friend and relative use rates for site-built homes
6. Hotel and motel use rates for site-built homes
7. Other refuge use rates for site-built homes
8. Evacuation rate for site-built homes
9. Out-of-county trip rates for mobile homes
10. Percent of available vehicles to be used by mobile homes
11. Public shelter use rates for mobile homes
12. Friend and relative use rates for mobile homes
13. Hotel and motel use rates for mobile homes
14. Other refuge use rates for mobile homes

In each table there are planning assumptions for six evacuation zones:

1. Areas needing to evacuate due to storm surge flooding from category 1 hurricanes
2. Areas needing to evacuate due to storm surge flooding from category 2 hurricanes
3. Areas needing to evacuate due to storm surge flooding from category 3 hurricanes
4. Areas needing to evacuate due to storm surge flooding from category 4 hurricanes
5. Areas needing to evacuate due to storm surge flooding from category 5 hurricanes
6. Areas not needing to evacuate due to storm surge flooding from hurricanes

Zones were defined relative to zones currently used by each county. In instances where counties currently aggregate zones the planning assumptions were interpolated for intermediate zones. For example, if a county used zones 1-2, 3, and 4-5, trends across those zones were used to specify assumptions for zones 1, 2, 3, 4, and 5.

### B. Working Data Tables

Responses for all survey questions are included in the Survey Data Report prepared by Kerr & Downs Research. In deriving planning assumptions, responses to certain questions are more important than others, and they are used more effectively if organized differently than as they appear in the Survey Data Report. The most salient variables from the survey were

put into working data tables for use in supporting the derivation of planning assumptions, and the tabulations appear as Appendix B. There is an appendix for each county.

The tabulations include responses to questions about perceived vulnerability, intended response, and actual response in past hurricane threats. The tables are arrayed to facilitate inspection of responses most relevant to derivation of specific planning assumptions (evacuation rate, destinations, refuge, vehicles). If there were too few responses to a question for the data to be statistically useful, cells in tables were left blank (with a hyphen in the cell). The tables in the working data table appendices are not intended to be replacements for the more complete description of the survey data included in the Survey Data Report. Readers should refer to the Survey Data Report for a more thorough understanding of the questions used to generate the background data tables.

The regional aggregation of background data is more reliable statistically due to the larger sample size, particularly for actual response data and when looking at responses separately by zone or housing type. County data was used to differentiate planning assumptions among counties when differences were large enough to warrant differentiation.

### C. Evacuation Rates

Evacuation rates refer to the percentage of people who will leave their homes to go someplace safer during a hurricane threat. This is a critical variable for planning because it drives the number of vehicles on the roadways during an evacuation. Responses will vary even for hurricanes of the same intensity, depending on how great the threat appears to be to one's specific location. Evacuation rates on the periphery of warning areas tend to be lower than in areas closest to the projected path of a threatening storm. A strong category 4 hurricane which has maintained its intensity for a day or more prior to landfall will elicit greater response than one which intensifies from a 2 to a 4 just six hours prior to landfall or one which weakens from a 4 to a 2 twelve hours prior to landfall. Both media attention and actions by public officials will vary from one strong category 4 hurricane to another due to similar considerations. A large category 4 storm will receive greater attention from media and officials than a small category 4 storm (e.g., Floyd, "Andrew's Big Brother"). Actions by public officials have a great impact on evacuation rate. People are much more likely to evacuate, especially in strong storms, when they believe they have been ordered to evacuate than when they believe they have received a recommendation to evacuate or haven't been told at all whether they should evacuate. A problem is that many people (often 30% in category 1 evacuation zones) fail to hear, comprehend, or believe that evacuation orders apply to them. The methods and aggressiveness used to disseminate evacuation notices affect evacuation rates.

The planning assumptions for evacuation rates are the *maximum probable rates*. They assume that a threatening storm of a given category poses its greatest threat to each county. That is,

1. The storm's forecast track is over the county early and throughout at least a full day of the threat.
2. The storm has been at the specified intensity for at least a day of the threat and remains at that intensity until landfall.

3. The storm makes landfall in the county.

These conditions aren't met very often, and recent threats in the South Florida region have not generated evacuation rates as high as those in the planning assumptions. In fact in the 12 storms asked about in one county or another as part of the SRES the highest evacuation rates observed for site-built homes in the category 1 evacuation zone in any county was 80% (Santa Rosa in Ivan and Nassau in Floyd). But evacuation rates over 90% have been documented in other threats (e.g., Escambia in Frederic, parts of Pinellas in Elena, most of coastal Georgia and southern South Carolina in Floyd, and Galveston, Texas in Rita).

Applying the county planning assumptions to the entire region overstates evacuation rate for the region, because not every county in the region will meet the conditions. However, one doesn't know in advance the county to which they will apply, if any.

The planning assumptions assume that officials issue mandatory evacuation orders for surge-related evacuation zones for hurricanes of corresponding intensities (e.g., everyone in the category 1 evacuation zone is ordered to evacuate in a category 1 hurricane). They also assume that all mobile homes are ordered to evacuate for hurricanes of all intensities. If officials do not issue mandatory evacuation notices, evacuation rates will be lower than those shown in the planning assumption tables, particularly in lower-category storms.

The planning assumptions include shadow evacuation – people leaving from areas and structures not ordered by officials to evacuate. These assumptions can add substantially to the total number of people evacuating and generating shelter demand, but the phenomenon exists, particularly when conditions such as those enumerated above apply (storm is forecast for an extended period to strike the county, maintains its intensity, and makes landfall in the county). One reason that shadow evacuation occurs is that many people have misconceptions about their vulnerability (see Appendix B).

## **D. Out-of-County Trips**

Many evacuees go farther than necessary to reach safety, and the planning assumptions indicate the percentage of evacuees who will go to destinations outside their own county. The Survey Data Report lists the actual destination (i.e., city) where intended evacuees said they would go and where actual evacuees have gone in the past, if they said they would go or went beyond their own neighborhoods. Going out-of-county can increase evacuation clearance times but has occurred in the past and will in the future until officials are more successful at dissuading evacuees from doing so. Very few out-of-county evacuees seek refuge in public shelters. The great majority go to the homes of friends and relatives or to hotels and motels.

## **E. Type of Refuge**

There are separate tables for the percentage of evacuees who will go to public shelters, the homes of friends and relatives, hotels and motels, and other types of refuge (such as churches, workplaces, and second homes). Survey respondents tend to overstate their likelihood of using public shelters and understate their likelihood of going to the homes of friends and relatives. Actual refuge use is the best indicator, but in the South Florida region



there have been too few evacuees in most past hurricane threats included in the survey to provide highly reliable estimates for future planning. Planning assumptions for the counties reflect a reduced value of the intended public shelter use figures unless actual response values were consistent with the intended behavior. The ability of evacuees to actually go to their intended refuge or to the places they have gone in the past will depend of the availability of those refuges in future threats.

## **F. Percent of Available Vehicles**

Many evacuating households tend to take only a portion of the vehicles available to them, mainly to avoid separating the family more than necessary. The planning assumptions indicate the percentage of vehicles available to households that will be used in an evacuation. The Survey Data Report includes the number of vehicles available to evacuating households and the number they would take. The percent-of-available figures are derived from those data. Although planners could use the number of vehicles per household from the SRES survey and reported in the Survey Data Report, census data should provide better statistical estimates of the number of vehicles available to households, to which the percent-of-available multipliers can be applied. The survey asked only about intended vehicle use, but a large number of post-storm surveys have asked about actual vehicle use, and the intended use figures tend to match the actual use figures well.

## **G. Evacuation Timing**

Not all evacuees leave at the same time. Some leave before public officials issue evacuation notices, some leave very soon following issuance of evacuation notices, and some wait until shortly before they expect the threatening storm to arrive.

### **1. Evidence from Past Evacuations**

Many surveys documenting response following hurricane evacuations have asked evacuees to indicate the time and date when they departed their homes. The responses have been graphed to depict cumulative evacuation curves. The curves show how the evacuation (on the y-axis) grew over time (on the x-axis), typically with a few people leaving early and then increasing to the point at which 100% of the evacuees had eventually departed. The curves indicate when vehicles enter the evacuation network as evacuating vehicles, not when they reached their destinations or when they made other trips in the network prior to evacuating.

In general a graph of when evacuees depart often looks like the letter "S." In some evacuations the "S" is compressed laterally (i.e., over time) to appear thin and upright. Those curves occur when all departures occur in a relatively short period of time. They usually happen when evacuation notices were not issued early enough due to an unexpected change in a storm's track, forward speed, or intensity. By the time evacuation notices are issued, little time remains before anticipated landfall, so evacuees leave with a sense of urgency corresponding to the threat. This would be referred to as a relatively "fast" or "quick" response.

In other evacuations the “S” is stretched laterally and covers more of the length of the line on which it appears, with departures being distributed over a longer length of time. It looks “flatter.” In those cases evacuation notices were issued well in advance of anticipated landfall of the storm, and residents were aware that they had the luxury of waiting longer before departing if they choose to do so. Some evacuees do wait longer before leaving, but not all do. Departures are distributed over a longer period of time than in the first example. This might be referred to as a “slow” response.

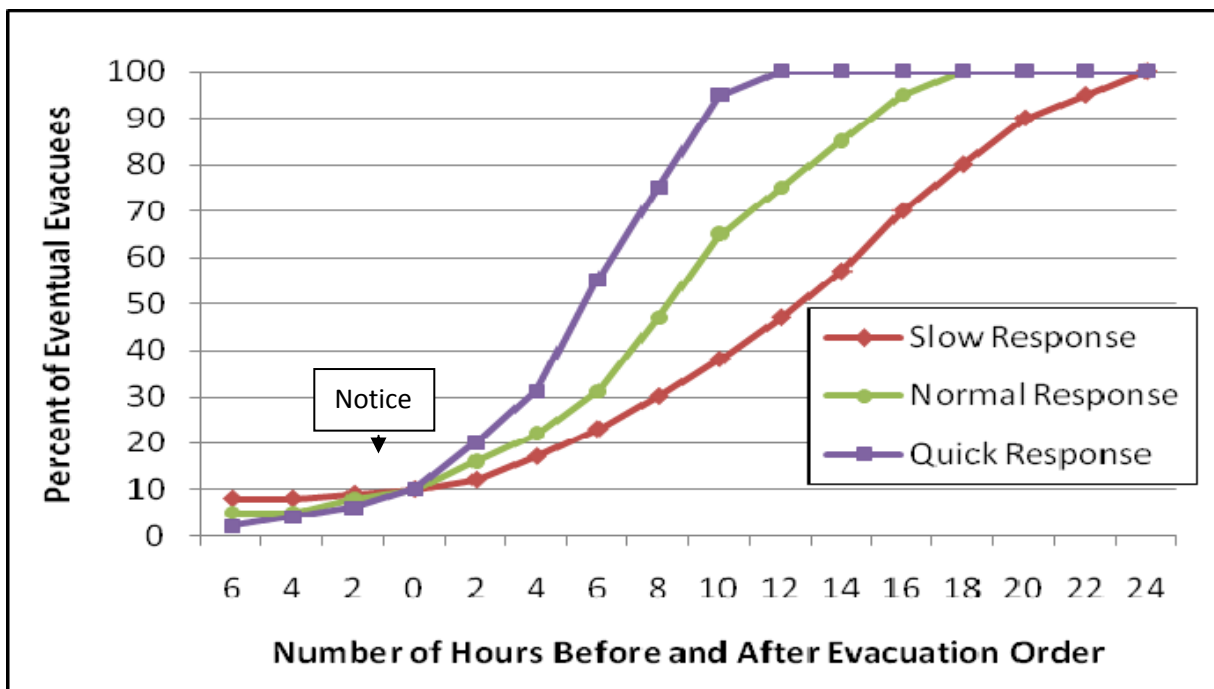
There are also evacuation timing curves that fall between those two, resulting in an “S” that is less compressed than the first, but less stretched than the second. This sort of evacuation results when evacuation notices are issued earlier than in the first example, but not as early as in the second case.

In all three scenarios evacuees collectively take as much time as they believe is available to them. Perceptions about the urgency of the evacuation account for variations in whether the evacuation is “quick,” “slow,” or in between (“normal”).

## 2. Curves for Planning

The three evacuation timing scenarios described above are depicted graphically in Figure 1, reflecting the three versions of the letter “S.” The slowest of the three curves assumes that evacuation notices were issued at least 24 hours before landfall. The fastest of the three assumes that evacuation notices were issued just 12 hours prior to the anticipated onset of hurricane conditions.

Figure 1. Evacuation timing curves for planning



### 3. Variations in the Curves

The haste in which evacuees depart is mainly a function of the perceived urgency of leaving sooner rather than later. Variations from storm to storm are usually a function of forecasts. If a forecast changes to indicate that landfall will occur sooner than previously anticipated, more people will start leaving. If intensity of a storm increases, indicating that additional areas of a community need to evacuate, departures from those areas will increase. These changes influence public response primarily through evacuation notices and instructions provided by local officials. Officials can significantly affect the distribution of departures by when they issue evacuation notices and how they word the notices and related announcements.

In each threat scenario occupants of less vulnerable areas (e.g., inland) will tend to wait longer to evacuate than those living in more hazardous locations (e.g., beaches). Variation in the curves is a function of variation in the perceived urgency of evacuating promptly, not demographics.

People prefer not to evacuate at night but will do so if necessary. Examples are Eloise, Elena, and Opal. Relatively few people leave prior to the issuance of evacuation notices by officials. People are willing to leave before watches and warnings are posted by the National Hurricane Center if asked to do so by local officials.

### 4. Examples of Actual Response Curves

Respondents to the SRES survey were not asked when they departed in past evacuations because too much time had passed between the evacuations and the interviews to trust the accuracy of recollections. The questions would also have made the interviews unacceptably lengthy. There are ample actual response curves that have been documented in other surveys.

#### Two-day Evacuations

If officials issue evacuation notices more than 24 hours prior to anticipated landfall, evacuation departures will be distributed over a period longer than 24 hours. Some evacuees will leave shortly after the evacuation notice during daylight hours, then departures will essentially stop on the evening of the first day, and then resume on the morning of the second day.

Most of the recent evacuations in Florida and elsewhere have taken place over a period of more than 24 hours. This has been the result of evacuation notices having been issued more than 24 hours prior to arrival of the storms. Curves were constructed for 11 different coastal regions in Florida, for example, including four regions in Florida, and all 11 curves were distributed over more than a 24-hour period. All four of the 2004 major hurricanes in Florida (Charley, Frances, Ivan, and Jeanne) had evacuations that covered more than 24 hours. Evacuation departures in Katrina in Mississippi and Louisiana and in Rita in Texas in 2005 occurred over a period of two days or more. The

same was true of Bertha and Fran in South Carolina in 1996, Georges in Florida in 1998, Lili in Texas and Louisiana in 2002, and Isabel in Virginia and Maryland in 2003.

### **One-day Evacuations**

The prevalence of two-evacuations stems from good forecasts and a precautionary approach by public safety officials, particularly in stronger storms. If the National Hurricane Center goes forward with plans to extend the lead times for Hurricane Watches and Warnings by 12 hours, early issuance of evacuation notices will probably continue.

However, good early forecasts won't always be the case, or for other reasons evacuations notices won't be issued early enough to afford the luxury of having two days in which to evacuate. In those instances evacuations in certain areas will need to be rushed to completion following issuance of evacuation notices, and the duration of evacuations will be less than two days. If the goal of clearance time calculations is to estimate the minimum amount of time necessary to complete an evacuation safely, response curves of shorter duration than two days should be assumed.

The quickest of the one-day curves assumes that all evacuees depart within 12 hours of an evacuation notice being issued, with just 10% having left prior to the evacuation notice. Examples of approximately 12-hour response curves are Broward and Miami-Dade Counties in Andrew in 1992, Pinellas County in Elena in 1985, and Escambia County in Frederic in 1979. Storms in which evacuation departures were distributed over a 12 to 18 hour period include David in Miami-Dade in 1979 and Opal in northwest Florida in 1995. Eloise in northwest Florida in 1975 is a rare example of evacuation departures occurring over a period of just six hours, but in some locations as little as 45% of the public evacuated.

## IV. Planning Assumptions for Vacationers

Compared to residents, there is relatively little data documenting how vacationers respond to hurricane threats, and no SRESP survey was conducted with vacationers to ascertain their intentions. Recommendations for behavioral assumptions for tourists are derived from intended-response survey findings with visitors to other locations and from existing data on how vacationers have responded in other locations, including the Carolinas.

### A. Evacuation Rates

There is no evidence that vacationers are reluctant to evacuate when a hurricane interrupts their visit to a coastal community. Based on observations of vacationer behavior in other locations and surveys in other locations concerning intended responses, it is reasonable to assume that 90% to 95% of vacationers will evacuate their accommodations *if evacuation orders are issued*.

### B. Type of Refuge

Officials sometimes report a large number of vacationers in public shelters, but they represent a very small percentage of the total visitor population. Fewer than 5% of the evacuating vacationers will go to public shelters. Between 25% and 50% will seek inland hotels and motels. The remainder will return home or stay with friends and relatives in Florida, although the number returning home will depend on the distances traveled by tourists from home. Those most likely to return home live within a one-day drive of where they vacation.

### C. Destinations

Up to 5% of tourist evacuees will stay within the county where their vacation accommodations were located or go to a nearby county to use a public shelter. At least half will go elsewhere in Florida to continue their vacation or wait out the storm. Up to half will return home, if they live within a one-day drive.

### D. Vehicle Use

The great majority of tourists have a vehicle available to them when on vacation, often their own. Virtually all of the vehicles will be used in evacuating, either to other tourist destinations, home, or airports.

### E. Evacuation Timing

Tourists leave at least as early as residents. The same curves used for residents should be used for tourists, unless officials order vacationers to evacuate earlier. Timing curves developed for tourist evacuation in Monroe County for the Florida Division of Community Planning should be applied for Monroe County tourists.

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**Appendix A**  
**Planning Assumptions**

## Reading the Planning Assumption Tables

### Columns

Columns in tables represent threats posed by category 1, 2, 3, 4, and 5 hurricanes.

### Rows

Rows in tables represent evacuation zones based on anticipated storm surge inundation: i.e., areas for which officials would issue evacuation notices due to the threat of storm surge and waves generated by category 1, 2, 3, 4, and 5 hurricanes. The sixth row in tables represents areas inland of the reach of storm surge inundation. Evacuation notices in inland areas (sixth rows of tables) would apply only to mobile homes and manufactured housing.

### Cells

Cells in tables represent the evacuation behavior of residents living in the respective evacuation zone when faced with each of the five hurricane threats, e.g., response in a category 3 hurricane by residents living in a category 1 surge evacuation zone. All figures are percentages – either percent of residents in the zone, percent of evacuees from the zone, or percent of available vehicles.

### Manufactured Homes

In most of the state residents in manufactured homes are given the same evacuation notices as residents of mobile homes. Emergency management officials indicated that in at least some of the South Florida counties newer manufactured homes are required to receive the same permits as site-built homes and treated as site-built homes in evacuations. If this policy continues, the planning assumptions for site-built homes should be applied to manufactured homes.



**Appendix A-1**  
**Planning Assumptions for Broward County**

Table 1. Broward County evacuation rates for residents living in site-built homes

<b>Broward Evacuation Rates (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	40	50	65	80	90
Cat 2 Surge Evacuation Zone	30	45	60	80	90
Cat 3 Surge Evacuation Zone	20	25	60	80	85
Cat 4 Surge Evacuation Zone	10	15	30	70	85
Cat 5 Surge Evacuation Zone	8	8	15	55	80
Inland of Surge Evacuation Zones	5	5	5	10	20

*Evacuation rate indicates the percent of residents who will leave their homes to go someplace safer from each zone in each storm threat scenario. Figures are based on the assumption that officials order evacuation for surge evacuation zones corresponding to storm category, plus all mobile homes and manufactured homes. Figures also assume that the actual storm track passes very close to the area being evacuated. Shaded cells indicate shadow evacuation – evacuation from areas not included in evacuation notices.*

Table 2. Broward County out-of-county trip rates for residents living in site-built homes

<b>Broward Out-of-county Trips (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	60	60	60	65	65
Cat 2 Surge Evacuation Zone	60	60	60	65	65
Cat 3 Surge Evacuation Zone	50	50	50	60	60
Cat 4 Surge Evacuation Zone	50	50	50	60	60
Cat 5 Surge Evacuation Zone	50	50	50	55	55
Inland of Surge Evacuation Zones	50	50	50	55	55

*Out-of-county trip rate indicates the percent of evacuees from each zone who will seek refuge outside their own county of residence in each storm threat scenario.*

Table 3. Broward County vehicle use rates for residents living in site-built homes

<b>Broward Vehicle Use Rate (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	80	80	80	80	80
Cat 2 Surge Evacuation Zone	80	80	80	80	80
Cat 3 Surge Evacuation Zone	70	70	70	70	70
Cat 4 Surge Evacuation Zone	70	70	70	70	70
Cat 5 Surge Evacuation Zone	70	70	70	70	70
Inland of Surge Evacuation Zones	70	70	70	70	70

*Vehicle use rate indicates of percentage of vehicles available to the evacuating household from each zone that will be used in evacuation in each storm threat scenario.*

Table 4. Broward County public shelter use rates for residents living in site-built homes

<b>Broward Public Shelter Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	2	2	2	2	2
Cat 2 Surge Evacuation Zone	2	2	2	2	2
Cat 3 Surge Evacuation Zone	5	5	5	5	5
Cat 4 Surge Evacuation Zone	5	5	5	5	5
Cat 5 Surge Evacuation Zone	5	5	5	5	5
Inland of Surge Evacuation Zones	5	5	5	5	5

*Public shelter use rate indicates the percent of evacuees from each zone who will seek refuge in public shelters, in each storm threat scenario.*

Table 5. Broward County friend/relative refuge use rates for residents living in site-built homes

<b>Broward Friend/Relative Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	75	75	75	75	75
Cat 2 Surge Evacuation Zone	75	75	75	75	75
Cat 3 Surge Evacuation Zone	75	75	75	75	75
Cat 4 Surge Evacuation Zone	75	75	75	75	75
Cat 5 Surge Evacuation Zone	75	75	75	75	75
Inland of Surge Evacuation Zones	75	75	75	75	75

*Friend/relative rate indicates the percent of evacuees from each zone who will seek refuge in the homes of friends and relatives, in each storm threat scenario.*

Table 6. Broward County hotel/motel refuge use rates for residents living in site-built homes

<b>Broward Hotel/Motel Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	15	15	15	15	15
Cat 2 Surge Evacuation Zone	15	15	15	15	15
Cat 3 Surge Evacuation Zone	15	15	15	15	15
Cat 4 Surge Evacuation Zone	15	15	15	15	15
Cat 5 Surge Evacuation Zone	15	15	15	15	15
Inland of Surge Evacuation Zones	15	15	15	15	15

*Hotel/motel rate indicates the percent of evacuees from each zone who will seek refuge in hotels and motels, in each storm threat scenario.*

Table 7. Broward County other refuge use rates for residents living in site-built homes

<b>Broward Other Refuge Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	8	8	8	8	8
Cat 2 Surge Evacuation Zone	8	8	8	8	8
Cat 3 Surge Evacuation Zone	5	5	5	5	5
Cat 4 Surge Evacuation Zone	5	5	5	5	5
Cat 5 Surge Evacuation Zone	5	5	5	5	5
Inland of Surge Evacuation Zones	5	5	5	5	5

*Other refuge rate indicates the percent of evacuees from each zone who will seek refuge in locations such as churches, second homes, and workplaces, in each storm threat scenario.*

Table 8. Broward County evacuation rates for residents living in mobile and manufactured homes

Broward Evacuation Rates (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Mobile Homes</b>					
Cat 1 Surge Evacuation Zone	80	80	85	95	100
Cat 2 Surge Evacuation Zone	65	70	80	90	95
Cat 3 Surge Evacuation Zone	60	65	80	90	95
Cat 4 Surge Evacuation Zone	60	65	75	80	85
Cat 5 Surge Evacuation Zone	60	65	75	80	85
Inland of Surge Evacuation Zones	50	60	65	75	80

*Evacuation rate indicates the percent of residents who will leave their homes to go someplace safer from each zone in each storm threat scenario. Figures are based on the assumption that officials order evacuation for surge evacuation zones corresponding to storm category, plus all mobile homes and manufactured homes. Figures also assume that the actual storm track passes very close to the area being evacuated.*

Table 9. Broward County out-of-county trip rates for residents living in mobile and manufactured homes

Broward Out-of-county Trips (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Mobile Homes</b>					
Cat 1 Surge Evacuation Zone	35	35	40	40	45
Cat 2 Surge Evacuation Zone	35	35	40	40	45
Cat 3 Surge Evacuation Zone	35	35	40	40	45
Cat 4 Surge Evacuation Zone	35	35	40	40	45
Cat 5 Surge Evacuation Zone	35	35	40	40	45
Inland of Surge Evacuation Zones	40	45	50	50	55

*Out-of-county trip rate indicates the percent of evacuees from each zone who will seek refuge outside their own county of residence in each storm threat scenario.*

Table 10. Broward County vehicle use rates for residents living in mobile and manufactured homes

Broward Vehicle Use Rate (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Mobile Homes</b>					
Cat 1 Surge Evacuation Zone	85	85	85	85	85
Cat 2 Surge Evacuation Zone	85	85	85	85	85
Cat 3 Surge Evacuation Zone	75	75	75	75	75
Cat 4 Surge Evacuation Zone	75	75	75	75	75
Cat 5 Surge Evacuation Zone	75	75	75	75	75
Inland of Surge Evacuation Zones	75	75	75	75	75

*Vehicle use rate indicates of percentage of vehicles available to the evacuating household from each zone that will be used in evacuation in each storm threat scenario.*

Table 11. Broward County public shelter use rates for residents living in mobile and manufactured homes

Broward Public Shelter Use (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Mobile Homes</b>					
Cat 1 Surge Evacuation Zone	5	5	5	5	5
Cat 2 Surge Evacuation Zone	5	5	5	5	5
Cat 3 Surge Evacuation Zone	10	10	10	10	10
Cat 4 Surge Evacuation Zone	10	10	10	10	10
Cat 5 Surge Evacuation Zone	10	10	10	10	10
Inland of Surge Evacuation Zones	15	15	15	15	15

*Public shelter use rate indicates the percent of evacuees from each zone who will seek refuge in public shelters, in each storm threat scenario.*

Table 12. Broward County friend/relative refuge use rates for residents living in mobile and manufactured homes

Broward Friend/Relative Use (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Mobile Homes</b>					
Cat 1 Surge Evacuation Zone	65	65	65	65	65
Cat 2 Surge Evacuation Zone	65	65	65	65	65
Cat 3 Surge Evacuation Zone	65	65	65	65	65
Cat 4 Surge Evacuation Zone	65	65	65	65	65
Cat 5 Surge Evacuation Zone	65	65	65	65	65
Inland of Surge Evacuation Zones	65	65	65	65	65

*Friend/relative rate indicates the percent of evacuees from each zone who will seek refuge in the homes of friends and relatives, in each storm threat scenario.*

Table 13. Broward County hotel/motel refuge use rates for residents living in mobile and manufactured homes

Broward Hotel/Motel Use (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Mobile Homes</b>					
Cat 1 Surge Evacuation Zone	15	15	15	15	15
Cat 2 Surge Evacuation Zone	15	15	15	15	15
Cat 3 Surge Evacuation Zone	15	15	15	15	15
Cat 4 Surge Evacuation Zone	15	15	15	15	15
Cat 5 Surge Evacuation Zone	15	15	15	15	15
Inland of Surge Evacuation Zones	15	15	15	15	15

*Hotel/motel rate indicates the percent of evacuees from each zone who will seek refuge in hotels and motels, in each storm threat scenario.*

Table 14. Broward County other refuge use rates for residents living in mobile and manufactured homes

<b>Broward Other Refuge Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	10	10	10	10	10
Cat 2 Surge Evacuation Zone	10	10	10	10	10
Cat 3 Surge Evacuation Zone	10	10	10	10	10
Cat 4 Surge Evacuation Zone	10	10	10	10	10
Cat 5 Surge Evacuation Zone	10	10	10	10	10
Inland of Surge Evacuation Zones	10	10	10	10	10

*Other refuge rate indicates the percent of evacuees from each zone who will seek refuge in locations such as churches, second homes, and workplaces, in each storm threat scenario.*

**Appendix A-2**

**Planning Assumptions for Miami-Dade County**

Table 1. Miami-Dade County evacuation rates for residents living in site-built homes

<b>Miami-Dade Evacuation Rates (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	40	50	65	80	90
Cat 2 Surge Evacuation Zone	30	45	60	80	90
Cat 3 Surge Evacuation Zone	20	25	60	80	85
Cat 4 Surge Evacuation Zone	10	15	30	70	85
Cat 5 Surge Evacuation Zone	8	8	15	55	80
Inland of Surge Evacuation Zones	5	5	5	10	20

*Evacuation rate indicates the percent of residents who will leave their homes to go someplace safer from each zone in each storm threat scenario. Figures are based on the assumption that officials order evacuation for surge evacuation zones corresponding to storm category, plus all mobile homes and manufactured homes. Figures also assume that the actual storm track passes very close to the area being evacuated. Shaded cells indicate shadow evacuation – evacuation from areas not included in evacuation notices.*

Table 2. Miami-Dade County out-of-county trip rates for residents living in site-built homes

<b>Miami-Dade Out-of-county Trips (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	50	50	50	50	50
Cat 2 Surge Evacuation Zone	50	50	50	55	55
Cat 3 Surge Evacuation Zone	50	50	50	55	55
Cat 4 Surge Evacuation Zone	40	40	40	45	45
Cat 5 Surge Evacuation Zone	40	40	40	45	45
Inland of Surge Evacuation Zones	40	40	40	45	45

*Out-of-county trip rate indicates the percent of evacuees from each zone who will seek refuge outside their own county of residence in each storm threat scenario.*

Table 3. Miami-Dade County vehicle use rates for residents living in site-built homes

<b>Miami-Dade Vehicle Use Rate (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	80	80	80	80	80
Cat 2 Surge Evacuation Zone	70	70	70	70	70
Cat 3 Surge Evacuation Zone	70	70	70	70	70
Cat 4 Surge Evacuation Zone	65	65	65	65	65
Cat 5 Surge Evacuation Zone	65	65	65	65	65
Inland of Surge Evacuation Zones	75	75	75	75	75

*Vehicle use rate indicates of percentage of vehicles available to the evacuating household from each zone that will be used in evacuation in each storm threat scenario.*



Table 4. Miami-Dade County public shelter use rates for residents living in site-built homes

<b>Miami-Dade Public Shelter Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	5	5	5	5	8
Cat 2 Surge Evacuation Zone	5	5	5	5	8
Cat 3 Surge Evacuation Zone	5	5	5	5	8
Cat 4 Surge Evacuation Zone	10	10	12	12	12
Cat 5 Surge Evacuation Zone	10	10	12	12	12
Inland of Surge Evacuation Zones	10	10	12	12	15

*Public shelter use rate indicates the percent of evacuees from each zone who will seek refuge in public shelters, in each storm threat scenario.*

Table 5. Miami-Dade County friend/relative refuge use rates for residents living in site-built homes

<b>Miami-Dade Friend/Relative Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	65	65	65	65	65
Cat 2 Surge Evacuation Zone	65	65	65	65	65
Cat 3 Surge Evacuation Zone	65	65	65	65	65
Cat 4 Surge Evacuation Zone	65	65	65	65	65
Cat 5 Surge Evacuation Zone	65	65	65	65	65
Inland of Surge Evacuation Zones	65	65	65	65	65

*Friend/relative rate indicates the percent of evacuees from each zone who will seek refuge in the homes of friends and relatives, in each storm threat scenario.*

Table 6. Miami-Dade County hotel/motel refuge use rates for residents living in site-built homes

<b>Miami-Dade Hotel/Motel Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	20	20	20	20	20
Cat 2 Surge Evacuation Zone	20	20	20	20	20
Cat 3 Surge Evacuation Zone	20	20	20	20	20
Cat 4 Surge Evacuation Zone	20	20	20	20	20
Cat 5 Surge Evacuation Zone	20	20	20	20	20
Inland of Surge Evacuation Zones	20	20	20	20	20

*Hotel/motel rate indicates the percent of evacuees from each zone who will seek refuge in hotels and motels, in each storm threat scenario.*

Table 7. Miami-Dade County other refuge use rates for residents living in site-built homes

<b>Miami-Dade Other Refuge Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	10	10	10	10	10
Cat 2 Surge Evacuation Zone	10	10	10	10	10
Cat 3 Surge Evacuation Zone	10	10	10	10	10
Cat 4 Surge Evacuation Zone	5	5	5	5	5
Cat 5 Surge Evacuation Zone	5	5	5	5	5
Inland of Surge Evacuation Zones	5	5	5	5	5

*Other refuge rate indicates the percent of evacuees from each zone who will seek refuge in locations such as churches, second homes, and workplaces, in each storm threat scenario.*

Table 8. Miami-Dade County evacuation rates for residents living in mobile and manufactured homes

Miami-Dade Evacuation Rates (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Mobile Homes</b>					
Cat 1 Surge Evacuation Zone	80	80	85	95	100
Cat 2 Surge Evacuation Zone	65	70	80	90	95
Cat 3 Surge Evacuation Zone	60	65	80	90	95
Cat 4 Surge Evacuation Zone	60	65	75	80	85
Cat 5 Surge Evacuation Zone	60	65	75	80	85
Inland of Surge Evacuation Zones	50	60	65	75	80

*Evacuation rate indicates the percent of residents who will leave their homes to go someplace safer from each zone in each storm threat scenario. Figures are based on the assumption that officials order evacuation for surge evacuation zones corresponding to storm category, plus all mobile homes and manufactured homes. Figures also assume that the actual storm track passes very close to the area being evacuated.*

Table 9. Miami-Dade County out-of-county trip rates for residents living in mobile and manufactured homes

Miami-Dade Out-of-county Trips (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Mobile Homes</b>					
Cat 1 Surge Evacuation Zone	35	35	40	40	45
Cat 2 Surge Evacuation Zone	35	35	40	40	45
Cat 3 Surge Evacuation Zone	35	35	40	40	45
Cat 4 Surge Evacuation Zone	35	35	40	40	45
Cat 5 Surge Evacuation Zone	35	35	40	40	45
Inland of Surge Evacuation Zones	40	45	50	50	55

*Out-of-county trip rate indicates the percent of evacuees from each zone who will seek refuge outside their own county of residence in each storm threat scenario.*

Table 10. Miami-Dade County vehicle use rates for residents living in mobile and manufactured homes

Miami-Dade Vehicle Use Rate (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Mobile Homes</b>					
Cat 1 Surge Evacuation Zone	85	85	85	85	85
Cat 2 Surge Evacuation Zone	75	75	75	75	75
Cat 3 Surge Evacuation Zone	75	75	75	75	75
Cat 4 Surge Evacuation Zone	70	70	70	70	70
Cat 5 Surge Evacuation Zone	70	70	70	70	70
Inland of Surge Evacuation Zones	80	80	80	80	80

*Vehicle use rate indicates of percentage of vehicles available to the evacuating household from each zone that will be used in evacuation in each storm threat scenario.*

Table 11. Miami-Dade County public shelter use rates for residents living in mobile and manufactured homes

<b>Miami-Dade Public Shelter Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	10	10	10	10	10
Cat 2 Surge Evacuation Zone	10	10	10	10	10
Cat 3 Surge Evacuation Zone	10	10	10	10	10
Cat 4 Surge Evacuation Zone	15	15	15	15	15
Cat 5 Surge Evacuation Zone	15	15	15	15	15
Inland of Surge Evacuation Zones	15	15	15	15	15

*Public shelter use rate indicates the percent of evacuees from each zone who will seek refuge in public shelters, in each storm threat scenario.*

Table 12. Miami-Dade County friend/relative refuge use rates for residents living in mobile and manufactured homes

<b>Miami-Dade Friend/Relative Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	65	65	65	65	65
Cat 2 Surge Evacuation Zone	65	65	65	65	65
Cat 3 Surge Evacuation Zone	65	65	65	65	65
Cat 4 Surge Evacuation Zone	65	65	65	65	65
Cat 5 Surge Evacuation Zone	65	65	65	65	65
Inland of Surge Evacuation Zones	65	65	65	65	65

*Friend/relative rate indicates the percent of evacuees from each zone who will seek refuge in the homes of friends and relatives, in each storm threat scenario.*

Table 13. Miami-Dade County hotel/motel refuge use rates for residents living in mobile and manufactured homes

<b>Miami-Dade Hotel/Motel Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Cat 1 Surge Evacuation Zone	10	10	10	10	10
Cat 2 Surge Evacuation Zone	10	10	10	10	10
Cat 3 Surge Evacuation Zone	10	10	10	10	10
Cat 4 Surge Evacuation Zone	10	10	10	10	10
Cat 5 Surge Evacuation Zone	10	10	10	10	10
Inland of Surge Evacuation Zones	10	10	10	10	10

*Hotel/motel rate indicates the percent of evacuees from each zone who will seek refuge in hotels and motels, in each storm threat scenario.*

Table 14. Miami-Dade County other refuge use rates for residents living in mobile and manufactured homes

Miami-Dade Other Refuge Use (%)	Storm Threat Scenario				
	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
<b>Mobile Homes</b>					
Cat 1 Surge Evacuation Zone	15	15	15	15	15
Cat 2 Surge Evacuation Zone	15	15	15	15	15
Cat 3 Surge Evacuation Zone	15	15	15	15	15
Cat 4 Surge Evacuation Zone	15	15	15	15	15
Cat 5 Surge Evacuation Zone	15	15	15	15	15
Inland of Surge Evacuation Zones	15	15	15	15	15

*Other refuge rate indicates the percent of evacuees from each zone who will seek refuge in locations such as churches, second homes, and workplaces, in each storm threat scenario.*

**Appendix A-3**

**Planning Assumptions for Monroe County**

Table 1. Monroe County evacuation rates for residents living in site-built homes

<b>Monroe Evacuation Rates (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site Built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	40	50	70	80	90
Middle Keys	35	40	70	80	90
Lower Keys	40	45	70	80	90
Key West	35	40	70	80	90

*Evacuation rate indicates the percent of residents who will leave their homes to go someplace safer from each zone in each storm threat scenario. Figures are based on the assumption that officials order evacuation for surge evacuation zones corresponding to storm category, plus all mobile homes and manufactured homes. Figures also assume that the actual storm track passes very close to the area being evacuated. Shaded cells indicate shadow evacuation – evacuation from areas not included in evacuation notices.*

Table 2. Monroe County out-of-county trip rates for residents living in site-built homes

<b>Monroe Out-of-county Trips (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	95	95	95	95	95
Middle Keys	95	95	95	95	95
Lower Keys	90	90	90	90	90
Key West	85	85	85	85	85

*Out-of-county trip rate indicates the percent of evacuees from each zone who will seek refuge outside their own county of residence in each storm threat scenario.*

Table 3. Monroe County vehicle use rates for residents living in site-built homes

<b>Monroe Vehicle Use Rate (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	75	75	75	75	75
Middle Keys	75	75	75	75	75
Lower Keys	75	75	75	75	75
Key West	80	80	80	80	80

*Vehicle use rate indicates of percentage of vehicles available to the evacuating household from each zone that will be used in evacuation in each storm threat scenario.*

Table 4. Monroe County public shelter use rates for residents living in site-built homes

<b>Monroe Public Shelter Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	2	2	2	2	2
Middle Keys	2	2	2	2	2
Lower Keys	2	2	2	5	5
Key West	2	2	2	5	5

*Public shelter use rate indicates the percent of evacuees from each zone who will seek refuge in public shelters, in each storm threat scenario.*

Table 5. Monroe County friend/relative refuge use rates for residents living in site-built homes

<b>Monroe Friend/Relative Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	70	70	70	75	75
Middle Keys	50	50	50	55	55
Lower Keys	60	60	60	65	65
Key West	50	50	50	55	55

*Friend/relative rate indicates the percent of evacuees from each zone who will seek refuge in the homes of friends and relatives, in each storm threat scenario.*

Table 6. Monroe County hotel/motel refuge use rates for residents living in site-built homes

<b>Monroe Hotel/Motel Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	20	20	20	20	20
Middle Keys	25	25	25	25	25
Lower Keys	25	25	25	25	25
Key West	25	25	25	25	25

*Hotel/motel rate indicates the percent of evacuees from each zone who will seek refuge in hotels and motels, in each storm threat scenario.*

Table 7. Monroe County other refuge use rates for residents living in site-built homes

<b>Monroe Other Refuge Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Site-built Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	8	8	8	3	3
Middle Keys	23	23	23	18	18
Lower Keys	13	13	13	5	5
Key West	23	23	23	15	15

*Other refuge rate indicates the percent of evacuees from each zone who will seek refuge in locations such as churches, second homes, and workplaces, in each storm threat scenario.*

Table 8. Monroe County evacuation rates for residents living in mobile and manufactured homes

<b>Monroe Evacuation Rates (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	65	75	85	90	95
Middle Keys	65	75	85	90	95
Lower Keys	65	75	85	90	95
Key West	65	75	85	90	95

*Evacuation rate indicates the percent of residents who will leave their homes to go someplace safer from each zone in each storm threat scenario. Figures are based on the assumption that officials order evacuation for surge evacuation zones corresponding to storm category, plus all mobile homes and manufactured homes. Figures also assume that the actual storm track passes very close to the area being evacuated.*

Table 9. Monroe County out-of-county trip rates for residents living in mobile and manufactured homes

<b>Monroe Out-of-county Trips (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	75	75	75	75	75
Middle Keys	75	75	75	75	75
Lower Keys	75	75	75	75	75
Key West	75	75	75	75	75

*Out-of-county trip rate indicates the percent of evacuees from each zone who will seek refuge outside their own county of residence in each storm threat scenario.*

Table 10. Monroe County vehicle use rates for residents living in mobile and manufactured homes

<b>Monroe Vehicle Use Rate (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	80	80	80	80	80
Middle Keys	80	80	80	80	80
Lower Keys	80	80	80	80	80
Key West	85	85	85	85	85

*Vehicle use rate indicates of percentage of vehicles available to the evacuating household from each zone that will be used in evacuation in each storm threat scenario.*



Table 11. Monroe County public shelter use rates for residents living in mobile and manufactured homes

<b>Monroe Public Shelter Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	5	5	5	10	10
Middle Keys	5	5	5	10	10
Lower Keys	5	5	5	10	10
Key West	5	5	5	10	10

*Public shelter use rate indicates the percent of evacuees from each zone who will seek refuge in public shelters, in each storm threat scenario.*

Table 12. Monroe County friend/relative refuge use rates for residents living in mobile and manufactured homes

<b>Monroe Friend/Relative Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	70	70	70	70	70
Middle Keys	50	50	50	55	55
Lower Keys	60	60	60	65	65
Key West	50	50	50	55	55

*Friend/relative rate indicates the percent of evacuees from each zone who will seek refuge in the homes of friends and relatives, in each storm threat scenario.*

Table 13. Monroe County hotel/motel refuge use rates for residents living in mobile and manufactured homes

<b>Monroe Hotel/Motel Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	20	20	20	20	20
Middle Keys	25	25	25	25	25
Lower Keys	25	25	25	25	25
Key West	25	25	25	25	25

*Hotel/motel rate indicates the percent of evacuees from each zone who will seek refuge in hotels and motels, in each storm threat scenario.*

Table 14. Monroe County other refuge use rates for residents living in mobile and manufactured homes

<b>Monroe Other Refuge Use (%)</b>	<b>Storm Threat Scenario</b>				
<b>Mobile Homes</b>	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Upper Keys	5	5	5	0	0
Middle Keys	20	20	20	10	10
Lower Keys	10	10	10	0	0
Key West	20	20	20	10	10

*Other refuge rate indicates the percent of evacuees from each zone who will seek refuge in locations such as churches, second homes, and workplaces, in each storm threat scenario.*

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**Appendix B**  
**Working Data Tables**

## Role of the Working Data Tables

Working data tables display data from the SRESP Survey Data Report in a condensed, abbreviated format. **They are not intended to replace the Survey Data Report, which contains more complete descriptions of question wording and sample size information, and should not be used without being familiar with the information in the Survey Data Report.** The working data tables were prepared to facilitate in the use of the SRES survey data in deriving behavioral assumptions for planning. This was accomplished by organizing the survey data most relevant to particular behaviors together and placing as much of it as feasible on the same page to permit at-a-glance perusal of the most relevant information. As a consequence, variable names have been shortened to compress the space needed to display all of the pertinent data, and certain conventions have been applied to serve as reminders about caveats applicable in some instances.

One such caveat involves sample size constraints. If the number of respondents to a question was lower than 10, a dash appears in the respective cell, indicating that the sample size was too small to make useful inferences. If the sample size was between 10 and 20, the sample size is displayed in parentheses (e.g., n=15). In Tables 1, 2, 3 for Broward and Miami-Dade and Tables 1, 2, 3, 5, 6, and 7 for Monroe, the variable "Would Evac in Cat 4-5" has an asterisk and data entries are italicized to indicate that the sample size for that variable is smaller than for others in the same table. In Table 6 for Broward and Miami-Dade and Tables 10 and 12 for Monroe, responses for the variable "Could Stay w/ Friend/Rel" are reported for the county as a whole because there were generally too few respondents to the question within a particular evacuation zone at the county level. The SRESP Survey Data Report contains information about actual numbers of responses.

In Broward and Miami-Dade Tables 1, 2, 3, 4, and 5 contain information relevant to whether respondents will evacuate (i.e., leave their homes to go someplace safer). Tables 6 and 7 summarize data used in projecting the type of refuge evacuees will employ. Tables 8 and 9 pertain to whether evacuees will leave their own county. Table 10 is relevant for predicting the percentage of available vehicles that will be used by evacuating households.

In Monroe Tables 1, 2, 3, and 4 as applied to site-built homes, Tables 5, 6, 7, and 8 as applied to mobile homes, and Table 9 contain information relevant to whether respondents will evacuate (i.e., leave their homes to go someplace safer). Tables 10, 11, and 12 summarize data used in projecting the type of refuge evacuees will employ. Tables 13, 14, and 15 pertain to whether evacuees will leave their own county. Table 16 is relevant for predicting the percentage of available vehicles that will be used by evacuating households. (The Monroe County working data tables contain tables for mobile home responses. There were too few mobile home responses in Broward and Miami-Dade to prepare separate tables.)

The Miami-Dade "B" evacuation zone applies to category 2 through most category 4 and 5 hurricanes. The "C" evacuation zone applies to certain category 4 and 5 hurricanes capable of generating unusual storm surge heights.

**Appendix B-1**  
**Broward County Working Data Tables**

## Broward County

Table 1. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 100 MPH Category 2 Hurricane

Site Built Homes	A (Cat 1-2)	B (Cat 3-5)	Non-surge
Flood in Cat 2	29	21	12
Unsafe in Cat 2	27	24	14
Expect Evac Notice in Cat 2	69	49	35
Would Evac in Cat 2*	0 (n=10)	59	48
Would Comply in Cat 2	68	71	71

Table 2. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 125 MPH Category 3 Hurricane

Site Built Homes	A (Cat 1-2)	B (Cat 3-5)	Non-surge
Flood in Cat 3	51	40	19
Unsafe in Cat 3	51	45	27
Expect Evac Notice in Cat 3	83	77	55
Would Evac in Cat 3*	90	79	69
Would Comply in Cat 3	79	83	79

Table 3. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 155 MPH Category 4 (nearly 5) Hurricane

Site Built Homes	A (Cat 1-2)	B (Cat 3-5)	Non-surge
Flood in Cat 4-5	65	55	39
Unsafe in Cat 4-5	69	69	59
Expect Evac Notice in Cat 4-5	90	90	75
Would Evac in Cat 4-5*	90	86	79
Would Comply in Cat 4-5	87	88	88

Table 4. Evacuation in Frances, Jeanne, and Wilma and Type of Evacuation Notice Heard, if any

Site Built Homes	A (Cat 1-2)	B (Cat 3-5)	Non-surge
Evacuated in Frances	<b>27</b>	<b>19</b>	<b>4</b>
Heard Must	20	4	2
Heard Should	23	14	3
Heard Neither	57	82	95
Evacuated in Jeanne	<b>22</b>	<b>17</b>	<b>2</b>
Heard Must	20	1	3
Heard Should	18	10	4
Heard Neither	62	87	93
Evacuated in Wilma	<b>26</b>	<b>14</b>	<b>4</b>
Heard Must	20	1	2
Heard Should	19	11	11
Heard Neither	61	88	87

Broward County

Table 5. Evacuation in Frances, Jeanne, and Wilma, Depending on Type of Evacuation Notice Heard

	Site-Built Homes
<b>Evacuated in Frances IF</b>	
Heard Must	<b>52</b>
Heard Should	<b>26</b>
Heard Neither	<b>10</b>
<b>Evacuated in Jeanne IF</b>	
Heard Must	50 (n=10)
Heard Should	26
Heard Neither	7
<b>Evacuated in Wilma IF</b>	
Heard Must	50
Heard Should	34
Heard Neither	7

## Broward County

Table 6. Intended Use of Public Shelters, Having Friends with Whom Respondent Intending to Go to Public Shelter Could Stay, and Actual Public Shelter Use in Frances, Jeanne, and Wilma

Site Built Homes	A (Cat 1-2)	B (Cat 3-5)	Non-surge
Public Shelter in Cat 2	6	4	21
Public Shelter in Cat 3	6	3	22
Public Shelter in Cat 4-5	4	5	21
Could Stay w/ Friend/Rel	69		
Public Shelter in Frances	0	0 (n=14)	-
Public Shelter in Jeanne	0 (n=18)	0 (n=12)	-
Public Shelter in Wilma	0	0 (n=11)	-

Table 7. Type of Refuge Used in Frances, Jeanne, and Wilma

	Site-Built Homes
Public Shelters	
Frances	2
Jeanne	3
Wilma	2
Friends/Relatives	
Frances	65
Jeanne	75
Wilma	63
Hotels/Motels	
Frances	21
Jeanne	13
Wilma	17
Other	
Frances	9
Jeanne	9
Wilma	15



## Broward County

Table 8. Intention to Evacuate to Out-of-County Destination, Percent of Evacuees in Frances, Jeanne, and Wilma Evacuating Out-of-County

Site Built Homes	A (Cat 1-2)	B (Cat 3-5)	Non-surge
Out of County in Cat 2	58	52	53
Out of County in Cat 3	60	53	54
Out of County in Cat 4-5	66	61	59
Out of County in Frances	54	54 (n=13)	-
Out of County in Jeanne	72 (n=18)	64 (n=11)	-
Out of County in Wilma	70	40 (n=10)	-

Table 9. Percent of Evacuees in Frances, Jeanne, and Wilma Evacuating Out-of-County

	Site-Built Homes
Out of County	
Frances	55
Jeanne	68
Wilma	62

Table 10. Percent of Vehicles Available to Household Evacuees Intend to Use in Evacuation

Vehicle Use	A (Cat 1-2)	B (Cat 3-5)	Non-surge
Site Built Homes	80	72	68

**Appendix B-2**  
**Miami-Dade County Working Data Tables**

## Miami-Dade County

Table 1. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 100 MPH Category 2 Hurricane

Site Built Homes	A (Cat 1)	B (Cat 2-5)	C (Cat 4-5)	Non-surge
Flood in Cat 2	32	23	25	11
Unsafe in Cat 2	32	16	18	11
Expect Evac Notice in Cat 2	68	49	47	41
Would Evac in Cat 2*	77 (n=17)	55	50	47
Would Comply in Cat 2	64	68	57	73

Table 2. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 125 MPH Category 3 Hurricane

Site Built Homes	A (Cat 1)	B (Cat 2-5)	C (Cat 4-5)	Non-surge
Flood in Cat 3	54	43	35	23
Unsafe in Cat 3	57	51	39	26
Expect Evac Notice in Cat 3	85	83	67	60
Would Evac in Cat 3*	83 (n=17)	76	70	70
Would Comply in Cat 3	82	87	76	83

Table 3. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 155 MPH Category 4 (nearly 5) Hurricane

Site Built Homes	A (Cat 1)	B (Cat 2-5)	C (Cat 4-5)	Non-surge
Flood in Cat 4-5	67	62	51	42
Unsafe in Cat 4-5	74	73	61	57
Expect Evac Notice in Cat 4-5	91	90	84	75
Would Evac in Cat 4-5*	94	93	83	80
Would Comply in Cat 4-5	89	89	82	90

Table 4. Evacuation in Andrew, Frances, and Wilma and Type of Evacuation Notice Heard, if any

Site Built Homes	A (Cat 1)	B (Cat 2-5)	C (Cat 4-5)	Non-surge
Evacuated in Andrew	<b>65</b>	<b>58</b>	<b>33</b>	<b>11</b>
Heard Must	41	39	20	8
Heard Should	37	9	23	23
Heard Neither	22	52	57	69
Evacuated in Frances	<b>26</b>	<b>17</b>	<b>8</b>	<b>6</b>
Heard Must	21	3	3	2
Heard Should	21	22	17	13
Heard Neither	59	75	81	85
Evacuated in Wilma	<b>17</b>	<b>8</b>	<b>8</b>	<b>5</b>
Heard Must	13	1	0	4
Heard Should	26	22	20	15
Heard Neither	61	76	80	82

Miami-Dade County

Table 5. Evacuation in Andrew, Frances, and Wilma, Depending on Type of Evacuation Notice Heard

	Site-Built Homes
<b>Evacuated in Andrew IF</b>	
Heard Must	<b>84</b>
Heard Should	<b>29</b>
Heard Neither	<b>24</b>
<b>Evacuated in Frances IF</b>	
Heard Must	58
Heard Should	31
Heard Neither	7
<b>Evacuated in Wilma IF</b>	
Heard Must	56
Heard Should	12
Heard Neither	6

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## Miami-Dade County

Table 6. Intended Use of Public Shelters, Having Friends with Whom Respondent Intending to Go to Public Shelter Could Stay, and Actual Public Shelter Use in Andrew, Frances, and Wilma

<b>Site Built Homes</b>	A (Cat 1)	B (Cat 2-5)	C (Cat 4-5)	Non-surge
Public Shelter in Cat 2	8	10	22	19
Public Shelter in Cat 3	10	16	18	19
Public Shelter in Cat 4-5	10	17	20	23
Could Stay w/ Friend/Rel	61			
Public Shelter in Andrew	25	5 (n=19)	30 (n=10)	-
Public Shelter in Frances	8	10 (n=10)	-	-
Public Shelter in Wilma	5	-	-	-

Table 7. Type of Refuge Used in Andrew, Frances, and Wilma

	<b>Site-Built Homes</b>
Public Shelters	
Andrew	15
Frances	7
Wilma	3
Friends/Relatives	
Andrew	66
Frances	57
Wilma	72
Hotels/Motels	
Andrew	39
Frances	10
Wilma	16
Other	
Andrew	9
Frances	5
Wilma	9

Miami-Dade County

Table 8. Intention to Evacuate to Out-of-County Destination, Percent of Evacuees in Andrew, Frances, and Wilma Evacuating Out-of-County

Site Built Homes	A (Cat 1)	B (Cat 2-5)	C (Cat 4-5)	Non-surge
Out of County in Cat 2	47	51	40	44
Out of County in Cat 3	47	51	41	42
Out of County in Cat 4-5	49	57	52	44
Out of County in Andrew	46	58 (n=19)	40 (n=10)	-
Out of County in Frances	52	40 (n=10)	-	-
Out of County in Wilma	53 (n=19)	-	-	-

Table 9. Percent of Evacuees in Andrew, Frances, and Wilma Evacuating Out-of-County

County Total	Site-Built Homes
Out of County	
Andrew	47
Frances	50
Wilma	47

Table 10. Percent of Vehicles Available to Household Evacuees Intend to Use in Evacuation

Vehicle Use	A (Cat 1)	B (Cat 2-5)	C (Cat 4-5)	Non-surge
Site Built Homes	82	71	66	75

**Appendix B-3**  
**Monroe County Working Data Tables**

## Monroe County

Table 1. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 100 MPH Category 2 Hurricane

Site Built Homes	Key West	Low Keys	Mid Keys	Up Keys
Flood in Cat 2	31	33	35	22
Unsafe in Cat 2	21	19	28	19
Expect Evac Notice in Cat 2	68	72	75	73
Would Evac in Cat 2*	33	-	60 (n=10)	-
Would Comply in Cat 2	41	47	42	51

Table 2. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 125 MPH Category 3 Hurricane

Site Built Homes	Key West	Low Keys	Mid Keys	Up Keys
Flood in Cat 3	51	57	60	51
Unsafe in Cat 3	54	45	61	51
Expect Evac Notice in Cat 3	93	94	91	89
Would Evac in Cat 3*	56	-	80 (n=10)	-
Would Comply in Cat 3	71	68	71	70

Table 3. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 155 MPH Category 4 (nearly 5) Hurricane

Site Built Homes	Key West	Low Keys	Mid Keys	Up Keys
Flood in Cat 4-5	71	81	76	69
Unsafe in Cat 4-5	76	76	87	80
Expect Evac Notice in Cat 4-5	98	98	95	96
Would Evac in Cat 4-5*	85	-	100 (n=10)	-
Would Comply in Cat 4-5	89	88	86	85

Table 4. Evacuation in Georges, Ivan, and Wilma and Type of Evacuation Notice Heard, if any

Site Built Homes	Key West	Low Keys	Mid Keys	Up Keys
Evacuated in Georges	<b>35</b>	<b>41</b>	<b>49</b>	<b>27</b>
Heard Must	37	36	26	21
Heard Should	35	34	26	11
Heard Neither	28	30	49	68
Evacuated in Ivan	<b>28</b>	<b>36</b>	<b>21</b>	<b>25</b>
Heard Must	31	21	21	14
Heard Should	34	21	25	37
Heard Neither	35	58	54	49
Evacuated in Wilma	<b>25</b>	<b>34</b>	<b>16</b>	<b>28</b>
Heard Must	41	34	24	23
Heard Should	27	29	27	26
Heard Neither	32	38	49	51



## Monroe County

Table 5. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 100 MPH Category 2 Hurricane

<b>Mobile Homes</b>	
Flood in Cat 2	36
Unsafe in Cat 2	48
Expect Evac Notice in Cat 2	82
Would Evac in Cat 2	-
Would Comply in Cat 2	68

Table 6. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 125 MPH Category 3 Hurricane

<b>Mobile Homes</b>	
Flood in Cat 3	61
Unsafe in Cat 3	75
Expect Evac Notice in Cat 3	96
Would Evac in Cat 3	-
Would Comply in Cat 3	86

Table 7. Perceived Vulnerability, Expectation of Receiving an Evacuation Notice from Officials, and Evacuation Intentions in a 155 MPH Category 4 (nearly 5) Hurricane

<b>Mobile Homes</b>	
Flood in Cat 4-5	86
Unsafe in Cat 4-5	98
Expect Evac Notice in Cat 4-5	98
Would Evac in Cat 4-5	-
Would Comply in Cat 4-5	93

Table 8. Evacuation in Georges, Ivan, and Wilma and Type of Evacuation Notice Heard, if any

<b>Mobile Homes</b>	
Evacuated in Georges	<b>67</b>
Heard Must	48
Heard Should	29
Heard Neither	24
Evacuated in Ivan	<b>40</b>
Heard Must	33
Heard Should	17
Heard Neither	50
Evacuated in Wilma	<b>41</b>
Heard Must	44
Heard Should	22
Heard Neither	33

## Monroe County

Table 9. Evacuation in Georges, Ivan, and Wilma, Depending on Type of Evacuation Notice Heard

	Site-Built Homes	Mobile Homes
<b>Evacuated in Georges IF</b>		
Heard Must	<b>56</b>	-
Heard Should	<b>41</b>	-
Heard Neither	<b>23</b>	80 (n=10)
<b>Evacuated in Ivan IF</b>	59	50 (n=10)
Heard Must	32	-
Heard Should	11	33 (n=15)
Heard Neither		
<b>Evacuated in Wilma IF</b>		
Heard Must	43	42 (n=12)
Heard Should	32	-
Heard Neither	10	-

Monroe County

Table 10. Intended Use of Public Shelters, Having Friends with Whom Respondent Intending to Go to Public Shelter Could Stay, and Actual Public Shelter Use in Georges, Ivan, and Wilma

<b>Site Built Homes</b>	Key West	Low Keys	Mid Keys	Up Keys
Public Shelter in Cat 2	2	4	1	0
Public Shelter in Cat 3	2	3	3	0
Public Shelter in Cat 4-5	4	3	3	0
Could Stay w/ Friend/Rel	46 (n=11)			
Public Shelter in Georges	0 (n=16)	6 (n=18)	5 (n=19)	0 (n=12)
Public Shelter in Ivan	5 (n=19)	4	0 (n=12)	0 (n=16)
Public Shelter in Wilma	6 (n=18)	4	-	6 (n=18)

Table 11. Type of Refuge Used in Georges, Ivan, and Wilma

	<b>Site-Built Homes</b>	<b>Mobile Homes</b>
<b>Public Shelters</b>		
Georges	3	0 (n=14)
Ivan	3	0 (n=12)
Wilma	4	0 (n=11)
<b>Friends/Relatives</b>		
Georges	68	57 (n=14)
Ivan	59	67(n=12)
Wilma	55	55 (n=11)
<b>Hotels/Motels</b>		
Georges	14	43 (n=14)
Ivan	24	25 (n=12)
Wilma	31	36 (n=11)
<b>Other</b>		
Georges	15	0 (n=14)
Ivan	13	8 (n=12)
Wilma	10	9 (n=11)

Table 12. Intended Use of Public Shelter, Having Friends with Whom Respondent Intending to Go to Public Shelter Could Stay, and Actual Public Shelter Use in Georges, Ivan, and Wilma

<b>Mobile Homes</b>	
Public Shelter in Cat 2	7
Public Shelter in Cat 3	7
Public Shelter in Cat 4-5	7
Could Stay w/ Friend/Rel	-
Public Shelter in Georges	0 (n=14)
Public Shelter in Ivan	0 (n=12)
Public Shelter in Wilma	0 (n=11)

Monroe County

Table 13. Intention to Evacuate to Out-of-County Destination, Percent of Evacuees in Georges, Ivan, and Wilma Evacuating Out-of-County

Site Built Homes	Key West	Low Keys	Mid Keys	Up Keys
Out of County in Cat 2	85	88	98	95
Out of County in Cat 3	84	91	94	93
Out of County in Cat 4-5	77	91	98	96
Out of County in Georges	88 (n=16)	94 (n=16)	84 (n=19)	100 (n=12)
Out of County in Ivan	100 (n=19)	91	92 (n=12)	100 (n=16)
Out of County in Wilma	89 (n=18)	92	-	100 (n=18)

Table 14. Percent of Evacuees in Georges, Ivan, and Wilma Evacuating Out-of-County

Region Total	Site-Built Homes	Mobile Homes
Out of County		
Georges	91	71 (n=14)
Ivan	96	83 (n=12)
Wilma	93	73 (n=11)

Table 15. Intention to Evacuate to Out-of-County Destination, Percent of Evacuees in Georges, Ivan, and Wilma Evacuating Out-of-County

Mobile Homes	
Out of County In Cat 2	74
Out of County in Cat 3	77
Out of County in Cat 4-5	75
Out of County in Georges	71 (n=14)
Out of County in Ivan	83 (n=12)
Out of County in Wilma	73 (n=11)

Table 16. Percent of Vehicles Available to Household Evacuees Intend to Use in Evacuation

Vehicle Use	Key West	Low Keys	Mid Keys	Up Keys
Site Built Homes	91	72	79	88
Mobile Homes	81			





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