# FLOOD HAZARD INFORMATION DISCLOSURE BY REALTORS

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#### SUMMARY

Research in California has shown that mandatory disclosure of earth-quake hazard information has had very little impact upon home purchases in danger areas. This study looks at a flood hazard area in the Lower Florida Keys to see if there is a similar phenomenon. Questionnaires were sent to realtors, residential home buyers, and mobile home buyers within the study area (between Big Pine Key on the north and Saddlebunch Keys on the south) between January of 1980 and August of 1983. The response rate was 67% for realtors and residential real estate purchasers and 64% for mobile home buyers. The results are very similar to those in California: although the disclosures do have a positive influence upon the acquisition of flood insurance, they have not diminished the growth of population in flood hazard areas of the Florida Keys.

#### PREFACE

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

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## TABLE OF CONTENTS

List of Tables	٠	•	•	•	vi.	ì
List of Figures			•		٧i	i
Introduction		•		•	•	1
The Lower Florida Keys Study		•	•	•	•	3
Realtors as Disclosure Agents		•	•	•	. !	5
Disclosures and Home Buyer Characteristics	•	•	•	•	. 13	3
Effects of Hazard Disclosures		•	•	•	. 17	7
The Realtors' Perspective			•	•	. 17	7
The Home Buyers' Perspective			•		. 19	9
Residents' Perceptions of Hurricane Threat			•	•	. 2	7
Importance of a Home's Storm Safety			•	•	. 28	٤
Disclosures and the Purchase of Mobile Home Residences.		•	•		. 29	9
Conclusions		•			. 3	3
References					. 38	٤

## LIST OF TABLES

2 Hurricane Hazard Disclosure and Method of Home Acquisition . 7

Customers that Homes are Located in Hurricane Zones. . . . . 8

1 Proportions of Home Buyers Receiving Hurricane Flood Zone

3 Methods Realtors Claim to Utilize to Inform Prospective

_			•	
	a	b	1	е

4	Methods Utilized to Provide Home Buyers with Hurricane Flood Information, 1977-1983	10
5	Typical Questions Asked About Hurricanes Reported by Realtors	11
6	Post-1980 Hurricane Hazard Disclosure and the Homes' Appraised Building Value (1983)	13
7	Post-1980 Hurricane Hazard Disclosure and the Acquisition of Homes On and Off Big Pine Key	14
8	Methods of Hurricane Hazard Disclosure Used with Post-1980 Newcomer Buyers and Post-1980 Resident Buyers	15
9	Association Between Hurricane Hazard Disclosure and the Importance of "Safety of Home During a Hurricane" in the Selection of the Home	20
10	Association Between Hurricane Hazard Disclosure and the Importance of the "Vulnerability of Homesite to Storm Flooding" in the Selection of the Home	20
11	Hurricane Flood Zone Disclosure Methods and Their Effects Upon the Post-1980 Buyers' Home Selection Process	23
12	Association Between Hurricane Hazard Disclosure and the Acquisition of Flood and Windstorm Insurance	25
13	Association Between Hurricane Hazard Information Disclosure and the Perceptions of Post-1980 Buyers of the Vulnerability of the Lower Florida Keys to Hurricane Damage	27
Figu	LIST OF FIGURES	
1	Map of Florida Keys Showing Study Area	4

#### INTRODUCTION

Realtors and mortgage bankers are increasingly being given the task of providing prospective home buyers with information concerning the risks involved in moving into various hazard zones. In California, state law requires that realtors inform home purchasers that homes are located near fault lines. Dade County, Florida, requires buyers of lands in the Everglades to sign written statements indicating they are aware they are purchasing swampland. Within coastal flood zones or on river flood plains, mortgage lenders and often realtors must inform customers that homes are located within flood zones and that flood insurance may be required. When interstate sales of lands covered by the Interstate Land Sales Full Disclosure Act are made, developers must file reports indicating whether lands are subject to floods, hurricanes, or other hazards. Within Florida, as indicated by Baker and McPhee (1975, p. 85), it is "mandatory for hazardous conditions (flood hazards) extant on the land to be specified in the [subdivision] reports."

Even where laws do not explicitly require property sellers or real estate agents and brokers to disclose hazards which may affect a property, the courts may hold them liable for failure to do so. For example, Platt (1983, p. 302) cites a court case which found that where "sellers 'held themselves out as highly skilled and competent land and resort developers,' they were subject to a duty to investigate and disclose potential erosion hazards." Slosson and Havens (1984), referring to several California court decisions, indicate that the liability of real estate salespersons has been extended even further, and that brokers not only have the duty of informing potential buyers about any geologic

hazards, but also the responsibility of inspecting the property and seeking public data concerning any hazards which may be present.

Disclosure of such hazard information not only has the purpose of protecting the property buyer by its "truth-in-selling" character, but as Simpson and Riehl (1981, p. 286) comment, it may "impose upon the developer and user of coastal property the reality of natural hazards." In a report prepared for the Florida Bureau of Disaster Preparedness, Wilson and colleagues (1980, p. 141) describe how subdivision regulations "can assure...that flood hazards are disclosed before any sale of land is made to prevent victimization and fraud." They also discuss the benefits of requiring the seller to inform the purchaser that property is in a flood plain, and to disclose "the types and amounts of damages incurred through the years from floods or other natural phenomena" (Wilson et al., 1980, p. 180). Likewise, a recent Federal Emergency Management Agency publication states, "Real estate agents could play an important role in informing prospective buyers about the vulnerability of coastal properties, though they are unlikely to do so unless required by local ordinance" (Field Associates, 1983, p. 26).

However, many questions remain concerning the effects of providing home buyers with hazards information. While the effects of realtors upon the home selection process in general have been reviewed in considerable detail (see Palm, 1976 and 1981b for an excellent summary), their impacts as purveyors of hazards information is less clear. Indeed, Baker and McPhee (1975, p. 106) comment, "It is known that real estate developers often attempt to influence hazard zone land use decisions, but the extent to which their influence is felt is not known." Research conducted in

California (Palm, 1981a, 1981b) concerning the earthquake hazard indicated that even mandatory disclosure of earthquake information by realtors to home buyers within "special studies zones" had little impact upon home purchasing.

The effect of similar disclosures within flood hazard zones upon home selection has not been well-studied. The flood hazard particularly warrants study since property is often deliberately purchased within coastal hazard zones to obtain the amenities of shoreline living, while fault zone properties generally lack such special environmental attractions. Indeed, residents of coastal flood zones have been found to be among the most educated concerning the presence of environmental hazards, showing greater awareness of hazards than residents of river flood plains (Burton and Kates, 1964). Further, since shorefront homes frequently are second or vacation homes representing surplus capital (Mitchell, 1974, p. 20), it is possible that buyers' evaluations of the hazard might differ from those which would be expressed if a primary residence were being purchased.

Thus, while the impact of earthquake information upon home sales has been well-studied in California, the applicability of those findings to the provision of other hazards information is questionable. This paper explores the effects of flood zone disclosures by realtors within a hurricane flood zone.

## THE LOWER FLORIDA KEYS STUDY

The effects of hurricane hazard disclosures upon the home selection process were examined from the perspectives of both realtors and home buyers within the Lower Florida Keys. Data were collected concerning

whether realtors provided their customers with hurricane information and the methods utilized to convey flood hazard data. During the 1983 hurricane season questionnaires were sent to members of the local boards of realtors, covering the area from Key West to Marathon, the largest communities on either side of the study area. A smaller sample of realtors (N = 53), shown by the questionnaires to be actively selling residential real estate, were questioned in depth using an interview survey form. All persons who purchased houses within the study area (from Big Pine Key to Saddlebunch Keys) (see Figure 1) between January 1980 and August 1983, according to county property ownership records, were mailed an eight-page questionnaire.

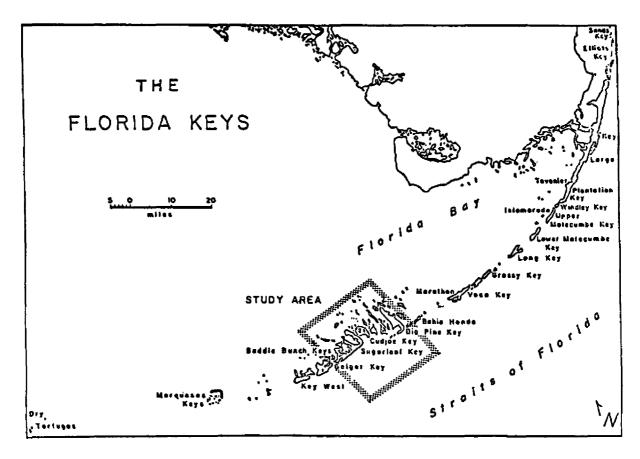


FIGURE 1
MAP OF FLORIDA KEYS SHOWING STUDY AREA

Three hundred and fifty-seven individuals returned questionnaires, a response rate of 67%. Additionally, a small proportion of 1977, 1978, and 1979 house purchasers were also sent questionnaires (145 were returned) so that any changes in the use of and effects of the hazard disclosures could be discerned. Responses to a similar questionnaire designed for mobile home residents were received from 120 persons (67% response rate) who purchased mobile homesites after January 1980.

Respondents (about 2%) who indicated they acquired their homes through inheritance or gifts were excluded from statistical analysis. Although data were collected from both buyers of houses and mobile homes, the primary focus of the analysis within this paper is upon the purchasers of houses.

The Lower Florida Keys study area at present has over 5000 dwelling units along with nearly 1000 mobile home or recreation vehicle spaces which are seasonally occupied. Of the dwelling units, approximately 60% are houses, with most of the remainder being mobile homes. The highest local elevation—eight feet—is found in a small area of Big Pine Key; approximately 96% of the study area is estimated by the Florida Coastal Coordinating Council (1974, p. 1) to be situated below the five—foot contour. Because the minimum base flood level of the Federal Insurance Rate Maps for the study area is nine feet, the entire area could be inundated during a 100-year storm. Within the velocity zones nearer the shore, flooding of 13 feet is possible.

## REALTORS AS DISCLOSURE AGENTS

Prospective home owners are not routinely advised about the threat of hurricane flooding by many realtors, even though virtually the entire

study area lies within designated flood zones. (Again, only 4% of the land in the Lower Florida Keys is more than five feet above sea level.) Only 52% of the new home owners (those who obtained houses since January, 1980) responded affirmatively to the question, "When you purchased your home or homesite, did your realtor (or previous owner) inform you that your home was in a hurricane flood zone or that you might need flood insurance?" On the other hand, two-thirds of the area realtors claim they told prospective home buyers that the property was located within a hurricane flood zone before a deal was closed, while another 19% indicated that they advised that flood insurance might be required, although they did not specifically discuss hurricanes.

The proportion of home purchasers reporting that their realtor or the previous home owner informed them that their home or homesite was either in a flood zone or needed flood insurance has nevertheless climbed steadily over the past few years. Thirty-five percent of home buyers were so cautioned in 1978 (Table 1); this had risen to 66% by 1982, although it dropped to 55% in 1983. One quarter of the new owners built their own homes upon the homesites which they purchased. Of those who purchased already constructed homes, approximately three-quarters bought their property through a realtor. Of those individuals who dealt directly with the previous owner since January of 1980, 52.6% indicated that the seller informed them about the property's coastal flood vulnerability compared with 58.5% of those buyers who dealt with a realtor (Table 2)-- hardly a significant difference.

Undoubtedly, many persons who purchased their homes directly from the previous owner received hurricane information from realtors contacted while considering other properties. Therefore, it is possible that these

TABLE 1

PROPORTIONS OF HOME BUYERS
RECEIVING HURRICANE FLOOD ZONE INFORMATION

Year Home Acquired:	Information Received	No Information
Before 1970	20.4 %	79.6 %
1970 through 1977	32.0 %	68.0 %
1978	34.9 %	65.1 %
1979	39.2 %	60.8 %
1980	45.7 %	54.3 %
1981	48.5 %	51.5 %
1982	65.5 %	34.5 %
1983	55.1 %	44.9 %

Chi-square=37.27, significance=.0000

TABLE 2
HURRICANE HAZARD DISCLOSURE AND METHOD OF HOME ACQUISITION

How did you obtain your Lower Florida Keys home?	Hazard Disclosure Given	Hazard Disclosure Not Given
Bought it through a realtor	96 (58.5%)	68 (41.5%)
Bought it directly from previous owner	40 (52.6%)	36 (47.4%)
Built the house with own labor	7 (21.9%)	25 (78. 1%)
Had home built by contractor	16 (32.0%)	34 ( <b>68.</b> 0%)

Chi-Square = 21.550, 3 degrees of freedom, significance = 0.0001.

figures do not realistically reflect differences which might exist, since newly arrived home seekers were more likely to deal through a realtor than the already-resident buyer. In contrast, only 28.1% of the residents who purchased a homesite since 1980 and subsequently constructed a house reported receiving information at the time they acquired their homesite.

The method of hazard disclosure as reported by the realtors was highly variable (Table 3). Only 27% of the realtors interviewed indicated that they or their offices had any set policy concerning how the disclosures were made. Typically, the realtor stated that his or her customers were informed about the coastal flood hazard while discussing

TABLE 3

METHODS REALTORS CLAIM TO UTILIZE TO INFORM PROSPECTIVE CUSTOMERS THAT HOMES ARE LOCATED IN HURRICANE FLOOD ZONES

"How do you usually disclose this information?"				Realtors Response
Conversation about insurance in general			32	%
Written disclosures at or before closing			30	%
Discussion of insurance with financing			26	%
Comes up in general conversation			26	%
Conversation while showing homes and area .			. 12	7.
Specific mention of flood levels and hurric	anes		10	7.
Contrast of local problems with other areas		• •	4	%

Note: Responses do not add to 100 percent since some realtors gave several responses to the open-ended question.

general home owners' insurance needs (32%) or while discussing insurance requirements for financing (26%). Less frequently, the realtor pointed out insurance needs while showing homes (12%), or by specifically discussing flood levels or information from "the National Hurricane Center" (19%). Likewise, only 10% of the realtors claimed to have made use of flood zone maps in their discussions with customers. Many realtors stated that they themselves had never seen the maps. Most of these disclosures were made verbally; only 30% of the realtors who inform their customers stated that they made written disclosures at or before closing.

It is interesting to note that although the current Marathon and Lower Keys Board of Realtors' disclosure form explicitly mentions flood insurance, many realtors are using older versions which only disclose the cost of "hazard insurance." Nevertheless, only 10% of the realtors interviewed indicated they felt that any "requirements that realtors should inform prospective buyers that property is located in a flood zone" were unfavorable. On the other hand, only 32% of the realtors expressed favorable attitudes towards the accuracy of the Federal Insurance Administration's flood hazard maps.

One-third of this decade's home buyers who reported receiving hurricane hazard information indicated that it was provided during discussions about hurricanes when homes were being shown. Another 14% receiving disclosures indicated that their realtor "talked about hurricanes during [their] first office visit." However, as can be seen in Table 4, this early disclosure was more common during the 1970s. The remaining informed home buyers were usually told about hurricane problems just before closing with a written disclosure form, or at the time financing was arranged.

TABLE 4

METHODS UTILIZED TO PROVIDE HOME BUYERS WITH HURRICANE FLOOD INFORMATION 1977-1983

"How did your realtor (or previous			Year Home	e Purchased	ased	
owner) inform you that your home was in a hurricane flood zone or that you might need flood insurance?"	Average 1977-1979 *	1980	1981	1982	1983	Average 1980~1983 *
Talked about hurricanes during first office visit	24 %	17 %	13 %	17 %	8 %	14 %
Talked about hurricanes when homes were shown	37 %	43 %	32 %	7 92	38 %	34 %
Talked about hurricane problems just before closing	10 %	12 %	и М	14 %	17 %	14 %
Included information on written disclosure form	10 %	7 %	13 %	17 %	13 %	12 %
Flood insurance requirements mentioned when financing was discussed**	17 %	10 %	13 %	7 6	<b>4</b> %	7 6
Miscellaneous other methods**	74	12 %	17 %	17 %	21 %	16 %

\* Averages are weighted by the number of real estate sales in each year. ПE \*\* These responses were listed by home buyers who specified

"Other" response.

The realtors reported that relatively few customers queried them concerning hurricanes. Indeed, when the realtors were asked, "What proportion of your clients have questioned you about the hurricane safety of various houses or homesites?," 38% stated that less than a fifth of the new home purchasers asked such questions, while another 34% of the realtors reported that between one-fifth and three-fifths of their customers had questions. When asked to typify the questions which they were asked, the realtors' responses (Table 5) indicated considerable

TABLE 5

TYPICAL QUESTIONS ASKED ABOUT HURRICANES REPORTED BY REALTORS

Questions which realtors reported were most frequently asked concerning potential hurricane problems:	Percent of Realtors Making Each Response
THE PHYSICAL HURRICANE HAZARD What happens?, What are flood heights?, How often are hurricanes?	51 %
PAST HURRICANE EXPERIENCES What has happened in the past?, Have there been any recent storms?	37 %
RELATION BETWEEN BUYER AND HAZARD  How would the customer or his/her home be affected?	45 %
THE REALTOR'S EXPERIENCES What are the realtor's concerns and the realtor's experiences with storms?	37 <b>%</b>
MITIGATION BEHAVIOR  Does one evacuate? Should insurance be purchased?	24 %
MISCELLANEOUS Casual questions and jokes.	<b>6</b> %

Note: Percentage figures exceed 100 percent because most realtors gave more than one response.

interest, if questions were asked at all, in recent storm experiences and storm frequency. Since the area has gone unscathed since 1966, and because nearly three-quarters of the real estate salespersons themselves moved to the Keys since then, the accuracy of the realtors' answers is highly questionable.

These findings suggest that either many new home owners already had ideas about the potential for hurricane destruction within the area or that they are poorly informed about the hurricane hazard. New home owners appear generally cognizant of the risk, with nearly two-thirds expecting a damaging hurricane within the next decade. Indeed, 77% of the realtors indicated that over four-fifths of their customers were aware that the area is subject to hurricanes. Nevertheless, there are many prospective home buyers who wished their realtor had discussed hurricane problems with them in more detail. Additional information was desired by 32% of those customers not receiving hurricane information, while only 14% receiving information wished for more details. Still, the majority of both groups were satisfied with the information (or lack thereof) which they had received.

Although realtors indicated that the majority of prospective customers realized that hurricanes had struck the area in the past and may strike again, these customers had little knowledge about the existence of flood insurance and mortgage insurance requirements. For example, 72% of the realtors reported that less than three-fifths of their customers were aware of the existence of federal flood insurance when they first contacted their realtor. In addition, 58% of the realtors interviewed indicated that less than one in three customers were aware that flood insurance was required to obtain a home mortgage.

### DISCLOSURES AND HOME BUYER CHARACTERISTICS

Disclosures were most likely to be given to, or at least remembered by, purchasers of moderately priced housing (Table 6). Those buying houses whose appraised building value (excluding homesite) according to Monroe County property assessment records was below \$20,000 were the least likely to receive hurricane information from their realtor or previous owner. Persons buying houses on Big Pine Key were significantly less likely to receive hurricane flood information that purchasers on all the other islands of the Lower Florida Keys (Table 7), probably reflecting the fact that some homesites are over a half mile from the coast. However, even those areas are in "A Zones," which would experience waters several feet deep during a 100-year storm.

POST-1980 HURRICANE HAZARD DISCLOSURE
AND THE HOMES' APPRAISED BUILDING VALUE (1983)

Appraised Value of Residence Building (excluding homesite)	Hazard Disclosure Given	Hazard Disclosure Not Given
Less than \$20,000	12 (33.3%)	24 (66.7%)
\$20,001 through \$40,000	54 (48.2%)	58 (51.8%)
\$40,001 through \$60,000	67 (60.4%)	44 (39.6%)
More than \$60,000	24 (46.2%)	28 (53.8%)

Chi-Square = 9.188, 3 degrees of freedom, significance = 0.0269.

TABLE 7

POST-1980 HURRICANE HAZARD DISCLOSURE
AND THE ACQUISITION OF HOMES ON AND OFF BIG PINE KEY

ome Located:	Hazard Disclosure Given	Hazard Disclosure Not Given
Big Pine Key	48 (39.7%)	73 (60.3%)
Saddlebunch, Sugarloaf, Cudjoe, Summerland, Ramrod, Little Torch Keys	111 (55.2%)	90 (44.8%)

Chi-Square = 6.702 (after Yates Correction), 1 degree of freedom, Significance = 0.0096

Note: The other keys were grouped so that cell sizes would be suitable for statistical testing. All the other keys, however, had higher rates of disclosure than Big Pine Key.

New home owners who were also new residents to the area were also more likely to report disclosures. While 55% of the newcomers purchasing houses or homesites upon which they built since 1980 were informed about the hurricane flood hazard or the need for flood insurance, only 44% of individuals who had lived in the Keys for at least a year before they purchased their present home were so informed during the same time period—a difference significant at the .10 level. Likewise, the manner in which the realtor, or former home owner, provided the disclosure to currently resident home seekers significantly differed (.05 level) from that given the nonresident home buyer (Table 8). Newcomers who received the disclosure were much more often informed while homes were actually

TABLE 9

METHODS OF HURRICANE HAZARD DISCLOSURE USED
WITH POST-1980 NEWCOMER BUYERS AND POST-1980 RESIDENT BUYERS

ow did this person inform you?	Newcomers	Resident
Talked about hurricanes during	13	7
first office visit.	(13.3%)	(17.1%)
Talked about hurricanes when	42	8
homes were shown.	(42.9%)	(19.5%)
Talked about hurricane problems	15	3
just before closing.	(15.3%)	(7.3%)
Included information on written	10	9
disclosure form.	(10.2%)	(22.0%)
Other methods.	18	14
	(18.4%)	(34.1%)
Total	100.0%	100.0%

Chi-Square = 12.140, 4 degrees of freedom, significance = 0.0163.

being shown (42.9 %) than were other purchasers (19.5%).

It should be noted that a number of the already resident home buyers volunteered on their questionnaires that their realtor did not have to tell them about hurricanes because they were already aware. It is unclear whether the lower reported disclosure rate among resident home buyers reflects diminished efforts at disclosure by realtors or home sellers, or conversely, the reduced impact, and thus recall, of a disclosure by residents who are not hearing it for the first time. Even though fewer resident home buyers reported the disclosures, only 19.8% wished they had received more information concerning possible hurricane problems, compared with 24.8% of the nonresident home buyers. Although

the differences in proportions are not statistically significant, they suggest that pinpointing new residents for disclosures may occur.

The background of the newly arrived home seeker could have influenced whether or not the individual was informed about the potential hurricane threat to the property being considered, but the data does not strongly support this hypothesis. For example, of those post-1980 buyers who were informed, 54.0% had previously lived in counties along the Atlantic, Gulf, or Pacific Coasts, compared with 65.3% of those new home buyers who failed to report such disclosures—a difference significant at the .10 level. However, this difference can be attributed to differences in disclosures noted between newly arrived home buyers and purchases by already resident individuals, since the differences within the two groups on the basis of their former residence are not statistically significant. Likewise, the proportion of residents receiving disclosures who came from nonmetropolitan counties did not statistically differ from that reported by those immigrating from urban areas.

Although the differences were again not statistically significant, a greater proportion (47.3%) of the new home buyers not receiving hurricane information had previously lived elsewhere in Florida before buying their Florida Keys home, while 39.2% of those receiving disclosures were Florida residents. These observations possibly hint at some biases which the customers' former residence may have had upon their being given information. On the other hand, there is no significant association between whether or not a home purchaser received hurricane information and his age, employment status, income, or education. Additionally, the vulnerability of the purchased homesite to storm flooding was generally not associated with whether or not the home buyer received hurricane

information from the realtor or previous owner at the time of the purchase. For example, while 53.3% of the post-1980 purchasers of water-front (shore or canal) homesites were given disclosures, compared with 41.8% of inland property purchasers, these differences were not significant at the .10 level. Likewise, the proportion of home purchasers receiving hurricane information was not statistically different between buyers on the basis of the hurricane flood zone (velocity (V) versus normal 100-year (A) flood zones), the base flood levels, or the elevation (above or below five feet) of the homesites.

#### EFFECTS OF HAZARD DISCLOSURES

### The Realtors' Perspective

The realtors interviewed were nearly evenly split in their opinions about what effects their coastal hazard disclosures had upon their customers' selection of house type (elevated on stilts versus ground level). Indeed, 48% of the realtors interviewed reported that the disclosure aided in the selling of houses elevated on stilts, while 52% disagreed. However, the flood information was viewed as having less effect upon sales as a whole, or upon the geographic area of customer interest. Only 18% of the realtors could recount a case where their disclosure of flood hazard information had cost them any sales, and only one in eight realtors could remember a case in which a customer had looked elsewhere in the Keys following the realtors' hurricane disclosure. Several realtors mentioned that occasionally home seekers tried to avoid certain islands such as Little Torch Key, preferring a larger island such as Big Pine Key.

Still, house sales as a proportion of all residential sales were statistically associated with whether realtors informed customers about the flood hazard and whether they had a set policy about this disclosure. For example, 62% of the realtors who had disclosure policies reported that stilt houses accounted for over half of their residential sales, while stilt houses provided over half the sales for only 29% of those realtors lacking disclosure policies. Likewise, 42% of the realtors who claimed to routinely inform customers that homes are subject to hurricane flooding indicated that stilt houses provided over half of their sales, while only 29% of the realtors who did not inform customers reported as high a proportion of stilt house sales.

On the other hand, few of the customers' hurricane attitudes as reported by the realtors could be related to the realtor disclosures or disclosure policies. No statistically significant relationships exist between realtors' informing customers and the attitudes, as perceived by the realtors, which the home buyers had about stilt houses, minimum elevation requirements, or flood insurance requirements. Likewise, those realtors informing customers about the hurricane flood zones did not report being asked about hurricanes by a larger proportion of their customers than did realtors not routinely informing customers. However, a weak statistical relationship does exist (at the .10 significance level) between the existence of a set disclosure policy and the proportion of customers who asked about hurricanes, with those realtors without policies reporting that customers are more likely to ask questions.