



Factors to Consider in Evaluating Monroe County's Windstorm Vulnerability

A Presentation to the Florida Commission on
Hurricane Loss Projection Methodologies

Prepared by the Grassroots Organization FIRM

Fair Insurance Rates in Monroe

August 2008

Outline



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Background – What's FIRM?



- Grassroots group founded in Key West in February 2006 to address skyrocketing windstorm insurance rates in Monroe County
- Grown from 32 neighbors in Key West to 5,000 members Keys-wide
- Run by volunteers and funded by donations
- 501(c)(6) organization

OUR MISSION: “To advocate for, promote and encourage the promulgation of fair, impartial and actuarially sound windstorm insurance rates for owners of commercial and residential properties within the geographic boundaries of Monroe County, Florida.”

FIRM Board of Directors



- **Michele Beach**, Owner of The UPS Store and Tropical Arts & Crafts Supplies, Key Largo
- **Heather Carruthers**, Co-owner of Pearl's Rainbow Resort, Key West
- **Nat Cassel**, Assistant Monroe County Attorney, Ramrod Key
- **Sam Coskey**, Retired Office of Insurance Regulation Senior Analyst, Key West
- **Cindy DeRocher**, FIRM Co-founder and General Manager of the Gardens Hotel, Key West
- **Robbie Hopcraft**, Mortgage Broker and Owner of Best Rate Lending Services, Key West
- **Teri Johnston**, Co-owner of Affiliated Design & Construction and City Commissioner, Key West
- **Kim Mack**, Financial Consultant, Key West
- **Annalise Mannix, P.E.**, City of Key West Environmental Programs Manager, Key West
- **Mel Montagne**, Commercial A.E. and Branch Manager, Keys Insurance Services, Marathon
- **Donna Moody**, FIRM Co-founder and Retired Landscaper, Key West
- **Colleen Repetto**, Treasurer, Coldwell Banker Schmitt Charitable Foundation, Marathon
- **Al Sachs**, Retired Engineer, Key West
- **Gary Sechen**, Chief Financial Officer, Key West Bank, Key West
- **Michael Todorovich**, Owner, Angelfish Risk Management, Ocean Reef

FIRM's Accomplishments



- Brought attention to statewide windstorm insurance crisis
- Successfully challenged Citizens Property Insurance Corporation (CPIC) 2006 rate filings which would have produced rates in excess of \$30/\$1,000 of coverage for Keys property owners.
- Convinced Office of Insurance Regulation to roll-back Monroe County rates by 32% (effective rate = \$13.58/\$1,000 of coverage)
- Worked with a coalition of consumer groups around the state for insurance reform

Accomplishments (continued)



- Influenced pro-consumer legislation of January 2007 which:
 - Froze windstorm rates state-wide
 - Temporarily repealed “use and file” statutes
 - Strengthened the Florida Building Code and eliminated exemptions
 - Mandated CPIC claims resolution within 90 days of filing
 - Provided for quarterly and bi-annual premium payment options
- Created strong working relationships with the Office of Insurance Regulation and key legislators in Tallahassee

Accomplishments (continued)



- In 2008, worked for passage of SB 2860 that resulted in:
 - Rate freeze extension until January 1, 2010
 - New 2010 rates must be actuarially sound
 - “Use and file” repeal until January 1, 2010
 - Homestead distinction elimination for purposes of assessment
 - CPIC ability to continue to offer wind-only coverage where not available in the private market
 - Change of coverage exemption to two-million dollar homes (rather than one million dollar homes)

FIRM's Contention



- Most models predict that the highest windstorm insurance rates in the state should be charged in Monroe County.
- Actual experience does not support these high rates.
- The models do not accurately reflect the realities of Monroe County and thus inaccurately predict our risk.

Actual Claims Experience



Property damage per insured property from the same storms **is lower in Monroe** than elsewhere in Florida. Wilma and Katrina are prime examples.

County	Citizens Policies in Force (HRA)	Storm	Citizens Windstorm Claims	Wind-strength Relativity	Claims Paid per Policy
Monroe	24,632	Katrina	\$22,542,608	baseline	\$915
Palm Beach	58,352	Katrina	\$120,286,077	similar	\$2,061
Collier	9,388	Katrina	\$31,582,635	similar	\$3,364
St. Lucie	1,652	Katrina	\$9,220,467	lower	\$5,581
Monroe	24,632	Wilma	\$22,927,392	baseline	\$931
Dade	85,270	Wilma	\$198,031,608	similar	\$2,322

TO READ: In Katrina, windstrengths were lower in St. Lucie County than Monroe County, yet Citizens windstorm claims paid were higher.

SOURCE: Citizens Property Insurance and the National Weather Service

Why?



- Actual claims are lower in Monroe County due to a combination of engineering, meteorological and geographical factors.
- These factors are not currently considered in either the FPHM or private models.

Engineering Factors: Construction



- Monroe County has had the strictest building code for all construction (residential, commercial-residential, and commercial) in the state for the longest period of time.
 - As of 1982, the Standard Building Code required Monroe County to have the state's highest windspeed rating for a 3-second gust.
 - Since 2002, Monroe County structures have been constructed and renovated to withstand 150 MPH gusts.
 - Shutters are the norm, not the exception, in the Keys, and have been required for all construction in Monroe County since 1990.

Engineering Factors: Construction (continued)



- As long ago as 1969, new construction in Key West in particular exceeded extant code, requiring:
 - All hollow masonry walls to be a minimum of 8" thick
 - Tie beams at each floor and roof, with four #5 reinforcing bars and #3 stirrups not less than 8" x 12" apart
 - Corners cast in place with five #5 bars and #3 ties at 12", and poured solid
 - At all doors and windows, one #5 reinforced bar, poured solid and tied to the footer beam

Engineering Factors: Construction (continued)



- Development in Monroe County is subject to a Rate of Growth Ordinances (ROGO).
 - A limited number of permits is issued yearly.
 - Property owners earn “points” to help them qualify for building permits.
 - Prior to adoption of the FBC in 2002, building to meet and exceed standards for wind-worthiness helped property owners earn more ROGO points.



Engineering Factors: Metal Roofs



- Metal roofs have been proven to be more wind-worthy than shingle or asphalt roofs which are standard in the Florida Building Code.
 - Keys construction conventions require plywood rather than manufactured products as the sheathing material.
 - Metal roofs are more impervious to UV degradation than other materials.
 - V-crimp metal roofs do not produce wind-borne debris to the extent that shingle or tile roofs do.



Engineering Factors: Predominance of Metal Roofs



- Metal roofs are increasingly common in Monroe County, particularly in Key West.
 - Between 2002 and 2006, 95% of roofs replaced in Key West were V-crimp metal roofs compliant with the FBC's 150MPH gust standards.
 - Nearly one-third of all Key West roofs are under 10 years old.

Roof Permits Issued in City of Key West: V-Crimp vs. Asphalt

Type	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>Total</u>	<u>%</u>
V-crimp	392	559	285	307	312	230	210	458	528	3281	83.3%
Asphalt	205	252	70	38	19	21	23	10	21	659	16.7%
Total	597	811	355	345	331	251	233	468	549	3940	100.0%

Engineering Factors: Sturdy Older Structures



- Key West is the most densely populated region of Monroe County.
- Key West has the largest collection of historic wood-frame homes (2,350) in the country.
- These homes have withstood storms for well over 100 years due to specific construction conventions, including:
 - Pin and dowel joinery
 - Metal roofs
 - Sheer interior walls
 - Relatively low height
 - Heavy beams
- Further, at least half of these homes have been substantially reinforced during renovation with the addition of features such as hurricane clips, creating a much younger effective age than “age of home” (determined by original construction date) would suggest.



Engineering Factors: Height Restrictions



- Monroe County's Comprehensive Plan places a 35-foot limit on building height in the Keys. The only exceptions to this regulation are equipment towers and certain equipment on the roofs of commercial structures.
- Most residential structures in Key West, the most densely populated area of the Keys, are under 25 feet tall.
- Wind speeds are measured at 10 meters, and intensify with increasing height.



Meteorological Factors: Storm Surge



- The Keys are a low-lying chain of islands, with the highest elevation at 18 feet.
- The predicted surge from a Category 5 storm is 15 feet.
- According to meteorologists at the National Weather Service, the threat to the Keys from hurricanes of Category 3 and higher is from storm surge, not wind.
- Flood insurance would pay for damage occurring from a significant hurricane.
- Wilma, a storm many consider to be the “100-year storm,” demonstrated this.



Meteorological Factors: Storm Frequency



- Many areas outside of Monroe County have experienced tropical storms as frequently as or more frequently than Monroe County.

City	years between tropical storms
Hollywood	2.60
Deerfield Beach	2.60
Boca Raton	2.60
Ft. Pierce	2.65
Florida City	2.65
Key West	2.70
Miami	2.70
Ft. Lauderdale	2.70
Stuart	2.75
Lake Worth	2.75
Spring Hill	2.75
Jupiter	2.87
Pensacola	2.93
Jacksonville	3.00
Marathon	3.14

Source: Hurricane City

Geographic Factors: Linear Geography



- o Due to the linear geography of the populated Keys, it is likely that a storm could impact one area of the chain and not impact another at all. PML calculations should take this into account.



Geographic Factors: Unpopulated Geography



- o The bulk of the land of Monroe County is the unpopulated Everglades on the mainland. Storms that come within 62 NM of this area of the County could be over 200 miles from the populated area of the Keys. This should be taken into account when calculating proximity of land-falling hurricanes.

Pale pink area represents Monroe County.
Mainland area is in the Everglades.



Geographic Factors: Proximity to Cuba



- The mountains of Cuba are 90 miles away from the Florida Keys. Mountainous regions create friction and generally reduce the intensity of storms that pass over them, and this has frequently been the case in the Keys. Ninety miles is too short a distance over open water for most storms to re-build in intensity.

Florida Keys

Cuba



Precedent for Special Consideration for Monroe



- There is considerable legislative and operational precedent for treating Monroe County separately.
 - Since 1973, Monroe County has been designated an Area of Critical State Concern, subject to unique development regulations.
 - The Pilot Project in 2006 allowed the Office of Insurance Regulation to consider Monroe County's insurance rates differently, as there was no reasonable degree of competition for windstorm insurance in the County.
 - The Florida Public Hurricane Model currently contains a model that is unique to Monroe County.

Conclusion



Models should be adjusted to take into account specific factors to more accurately predict risk in the Monroe County. Specifically:

○ Engineering Factors

- Stringent building code
- Metal roofs
- Building height restrictions
- Sturdy, renovated historic buildings in Key West

○ Meteorological Factors

- Equivalent tropical storm frequency elsewhere in Florida
- Storm surge as the cause of damage in most severe storms, covered by flood insurance

○ Geographic Factors

- Linear geography
- Unpopulated mainland geography
- Friction from Cuba

Get Information at:



www.FIRMkeys.org